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INDUSTRY OVERVIEW

The information that appears in this section has been prepared by Frost & Sullivan and reflects the estimates of market conditions based on publicly available sources and trade opinion surveys, and is prepared primarily as a market research tool. References to Frost & Sullivan should not be considered as the opinion of Frost & Sullivan as to the value of any security or the advisability of investing in the Company. Our Directors believe that the sources of information contained in this section are appropriate sources for such information and have taken reasonable care in extracting and reproducing such information. Our Directors have no reason to believe that such information is false or misleading or that any material fact has been omitted that would render such information false or misleading.

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SOURCE OF INFORMATION

Our Group had commissioned Frost & Sullivan to provide industry information on Singapore passenger vehicle interior modification market. Our Group had agreed to pay a fee of HK\$400,000 to Frost & Sullivan for the report. Our Directors are of the view that the payment does not affect the fairness of the views and conclusions presented in the Frost & Sullivan Report.

In compiling and preparing the research report, Frost & Sullivan conducted primary research including interviews with industry experts and participants and secondary research which involved reviewing the statistics published by the Singapore government, International Trade Centre, industry publications, annual reports and data based on its own database. Frost & Sullivan presented the figures for various market size projections from historical data analysis plotted against macroeconomic data, as well as data with respect to the related industry drivers and integration of expert opinions. Frost & Sullivan assumed that (i) the social, economic and political environment is expected to remain stable; and (ii) key industry drivers are likely to continue to affect the market over the forecast period from 2017 to 2021. On this basis, our Directors are satisfied that the disclosure of future projections and industry data in this section is not biased or misleading.

Our Directors confirm that, after making reasonable enquiries, there is no adverse change in market information since the date of the Frost & Sullivan Report which may qualify, contradict, or have an impact on the information in this Section.

Frost & Sullivan is an independent global consulting firm founded in 1961. It offers industry research, market strategies and provides growth consulting and corporate training. Its industry coverage includes industrial and machinery, automotive and transportation, chemicals, material and food, commercial aviation, consumer products, energy and power systems, environment and building technologies, healthcare, industrial automation and electronics and technology, media and telecom. The Frost & Sullivan Report includes information on data of the passenger vehicle interior modification market in Singapore.

OVERVIEW OF MACRO-ECONOMY IN SINGAPORE

Nominal GDP and Per Capita Nominal GDP

Driven mainly by the development of domestic manufacturing and service sector, nominal GDP in Singapore witnessed a stable growth from S\$346.4 billion in 2011 to S\$413.9 billion in 2016, representing a CAGR of 3.6% during this period. It is estimated that nominal GDP in Singapore will increase from S\$413.9 billion in 2016 to S\$496.1 billion in 2021, representing a CAGR of 3.7%.

Per capita nominal GDP in Singapore increased from S\$66,816.0 in 2011 to S\$74,131.4 in 2016, representing a CAGR of 2.1%. Going forward, it is expected to grow at a CAGR of 2.9% from 2016 to 2021 and reach S\$85,509.8 in 2021.

Average Monthly Household Income

The average monthly household income in Singapore increased from \$\$\$,722.0 in 2011 to \$\$10,778.6 in 2016, representing a CAGR of 4.3%. With stable growth of economy in Singapore, income earned by each household in Singapore per month is expected to further grow to \$\$13,427.4 in 2021, representing a CAGR of 4.5% from 2016 to 2021.



Average Monthly Household Income in Singapore, 2011–2021E

Source: Department of Statistics Singapore, Frost & Sullivan

OVERVIEW OF SINGAPORE PASSENGER VEHICLE MARKET

Definition and Classification of Passenger Vehicle Market

A passenger vehicle is a wheeled road motor vehicle except for motorcycle, intended primarily for the carriage of passengers. Vehicles such as buses and trucks are commercial vehicles, which do not fall into the category of passenger vehicles.

Introduction of COE System in Singapore

A COE represents a right to vehicle ownership and use of the limited road space for ten years. Anyone who wishes to register a new vehicle in Singapore must firstly obtain a COE in the appropriate vehicle category. At the end of the ten-year COE period, vehicle owners may choose to deregister their vehicle or to revalidate their COEs for another five or ten-year period by paying the prevailing quota premium. Vehicle owners are also allowed to deregister their COEs before the expiry of the ten-year

period and will receive money rebate. COEs are bidded through the COE open bidding system. There are two COE open bidding exercises each month and typically run as follows: starting on the first Monday and third Monday of the month at 12pm and, ending two days later on Wednesday at 4pm. According to the LTA, the monthly COE quota is calculated by summing up (i) the allowed annual net increase in vehicle population; (ii) the replacement of de-registered vehicles; and (iii) adjustments to account for changes in taxi population, past over-projections, expired or cancelled temporary COE, etc. Given the allowed annual net increase in vehicle population is kept at a fixed rate of 0.25% of the vehicle population of the previous year since February 2015, and the adjustments remain comparatively stable every month, the replacement of de-registered vehicles largely influences the COE quota.

Vehicle owners are entitled to a COE rebate when his/her vehicle is de-registered before its COE expires. The rebate can be used to offset the Additional Registration Fee (ARF), Registration Fee (RF), Quota Premium (QP) and the S\$10,000 surcharge for an imported used vehicle (registered from 1 September 2007) payable at the registration of his/her new vehicle. If a vehicle owner does not intend to use his/her COE rebate, he/she may sell the vehicle to a third party at a mutually agreed rate. With effect from 1 September 2008, the registered owner of the COE rebate may also apply to LTA for encashment of his/her rebates. All COE rebates are valid for 12 months from the date of de-registration. The rebate is pro-rated to the number of months and days remaining on the vehicle's COE, and the principal calculation of COE rebate can be illustrated as:

COE Rebate = Quota Premium Paid × Balanced Unused Months of COE Total Months of COE

The Singapore government aims to keep the total number of registered passenger vehicle at a relatively stable volume to meet the needs of transportation and also to prevent the problems of overcrowded traffic and air pollution by controlling the number of COE quota released. The COE quota is computed and set every three months. Number of replacements of the deregistered vehicles is mainly calculated based on the total number of deregistered vehicles during the three months before the last month. All passenger cars including mass production cars, luxury cars and ultra-luxury cars all fall in category A and category B in Singapore.

	Vehicle Category	Category A Cars (<=1600 cc) & Taxis	Category B Cars (>1600 cc)
2011	Quota	13,026	9,665
	Successful bids	12,708	9,574
	Quota premium	\$\$48,206.3	S\$64,937.7
2012	Quota	12,909	8,451
	Successful bids	12,538	8,395
	Quota premium	\$\$63,898.0	S\$84,430.6
2013	Quota	8,534	8,230
	Successful bids	8,455	8,042
	Quota premium	S\$74,690.0	S\$78,711.5
2014	Quota	12,230	11,205
	Successful bids	12,127	11,076
	Quota premium	\$\$67,675.3	S\$73,281.5
2015	Quota	32,867	21,578
	Successful bids	32,628	21,479
	Quota premium	\$\$60,601.2	S\$66,851.1
2016	Quota	48,734	31,361
	Successful bids	48,180	31,055
	Quota premium	S\$49,586.8	S\$52,122.2

COE Quota and Biding Results in Singapore, 2011-2016

Source: LTA, Frost & Sullivan

Introduction of Passenger Vehicle Distributors and Dealers in Singapore

Passenger vehicle distributors and dealers in Singapore sell new or used passenger vehicles at the retail level. New passenger vehicles are all imported from overseas, and based on the varying business models, passenger vehicle distributors and dealers can be classified into:

- Authorised passenger vehicle distributors and dealers sign dealership contracts with specific passenger vehicle manufacturers or their sales subsidiaries. Some authorised distributors and dealers sell single brand passenger vehicles. However, there are also multi-brand authorised passenger vehicle distributors and dealers that sell passenger vehicles and dealers from different manufacturers.
- Independent passenger vehicle distributors and dealers, also known as parallel importers, sell passenger vehicles imported from another country without signing dealership contracts with manufacturers. Independent passenger vehicle distributors and dealers do not obtain authorisation from the passenger vehicle manufacturers.

New Registration of Passenger Vehicle

To alleviate traffic condition, Singapore government has been controlling the total number of vehicles in use by limiting the COE quota. From 2011 to 2013, the COE quota decreased due to the decreasing number of deregistered passenger vehicles in Singapore, and the price of COE kept increasing, resulting in a decreasing number of newly registered vehicles. From 2014 to 2016, the number of both deregistered and newly registered vehicles in Singapore experienced an upward trend. In

2016, the number of newly registered passenger vehicles increased sharply to 87,504 units from 57,589 units in 2015, representing a growth rate of approximately 51.9% due to the large number of passenger vehicles reaching the ten-year usage limitation.

Going forward, as the number of passenger vehicles about to reach the ten-year usage limitation will remain high in 2017 and 2018, it is expected that, the COE quota will also remain at a high level as people will replace deregistered vehicles, and thus it is projected that the number of newly registered passenger vehicles in Singapore will remain high and reach 88,264 units and 81,258 units respectively in 2017 and 2018. Due to the cyclical nature of the market, a period of decline is expected after 2019 because of the shrinking number of vehicles reaching the ten-year COE period.



Total Number of Newly Registered Passenger Vehicles in Singapore, 2011–2021E

Source: LTA, Frost & Sullivan

Total Number of Registered Passenger Vehicle

With the continuous growth of population and nominal GDP in Singapore, the demand for passenger vehicles remained stable. The total number of registered passenger vehicle grew from 606,280 units in 2011 to 623,688 units in 2013. However, from 2014 to 2016, the total number of registered passenger vehicles experienced slight decrease because a large number of old vehicles reached the 10-year usage limitation and were scrapped.

Due to the continuous increase in the COE quota and number of newly registered passenger vehicle since 2015, as well as the expected decreasing number of deregistered passenger vehicles after 2017, the total number of registered passenger vehicle is expected to stop the downward trend and begin to increase in 2017. From 2016 to 2021, it is expected to gradually increase from 603,763 units to 611,348 units in 2021, representing a CAGR of 0.3%.



Total Number of Registered Passenger Vehicles in Singapore, 2011–2021E

OVERVIEW OF SINGAPORE PASSENGER VEHICLE INTERIOR MODIFICATION MARKET

Definition of Passenger Vehicle Interior Modification Market

Passenger vehicle interior modification refers to the procedures of modifying the functionality, performance or appearance of a passenger vehicle by changing its interior parts. Modified passenger vehicles may differ from the original in many areas, including cabin decoration and electronic accessories.

- Cabin decoration modification refers to alterations of vehicle interior appearance. Items that are usually modified by passenger vehicle owners are car seats, interior ceiling, mats, etc.
- Electronic accessories modification refers to the process of modifying passenger vehicles' functionality and performance through changes on vehicle electronic interior accessories. Common accessories are navigation system, reverse camera and reverse sensor, digital video recorders, multi-media entertainment system, etc.

New passenger vehicles with standardised configuration are usually equipped with basic specification interiors that may not fit users' aesthetics. Owners of used passenger vehicles also choose to modify the interiors for replacement of faulted or dated parts, or to upgrade the performance or safety. Interior modifications for passenger vehicles mainly focus on cabin decoration and electronic accessories.

Industry Value Chain

Upstream suppliers provide raw materials and components such as leather and electronic components.

Passenger vehicle interior modification product and service providers purchase raw materials and components from upstream suppliers and process or assemble them into products that can be applied to modify the interiors of passenger vehicles. Modification services providers also provide modification services such as installation, adjustment, tuning and after-sales services. International PV electronic accessories suppliers may grant exclusive distribution right and/or co-branding permission to Singapore PV interior modification product and service providers, and the selection criteria may include

modification providers' market performance, manpower techniques, cash flow position and negotiation skills. The formality and terms agreed on such exclusive distribution right and/or co-branding permission varies primarily depending on the business or personal relationship between the parties. Therefore, it is not uncommon in the industry that suppliers grant exclusive distribution right and/or co-branding permission to PV interior modification providers without any standardised or formal agreements in Singapore.

The existence and growth of interior modification product and service providers primarily rely on the modification demand of PV owners. Passenger vehicle interior modification product and service providers operate on two different business models: on B2B model, they sign contracts with passenger vehicles distributors and dealers and act as approved vendors. When consumers purchase vehicles and need interior modifications, distributors and dealers source products and services from those providers. Authorised distributors and dealers select interior modification vendors very carefully by assessing the sales proposals and quotations received; on B2C model, when PV owners want interior modifications for their passenger vehicles during usage for the purposes of changing appearance or enhancing functionality, interior modification product and service providers make sales directly to end consumers.

In Singapore, there are no PV manufacturing plants and all passenger vehicles are imported and then distributed within the country. As Singapore is one of the countries with heavy vehicle taxes, including additional registration fee and excise duty, PV distributors and dealers tend to import PVs with only basic accessories installed in order to lower the customs value of the vehicle, so as to minimise the amount of duties required. The excise duty is 20% of the customs value, while the additional registration fee has a tiered rate ranging from 100% to 180% of the customs value. Most PV distributors and dealers in Singapore would work with local interior modification product and service providers in order to achieve lower cost of products and add value to the business by timely meeting domestic customers' varying demands. When selecting modification product and service providers, PV distributors and dealers generally take into account various factors including the range of products and services provided, availability of skilled manpower, good reputation, and the extent of established partnership with other distributors.

It is common in Singapore that such providers rely on one or several large passenger vehicle distributors and dealers and remain profitable. The reason is that large new passenger vehicle distributors and dealers are usually authorised by multiple passenger vehicle manufacturers, and they are retailing several brands in Singapore. Hence, their customer base covers significant amount of passenger vehicle drivers domestically. Wearnes Automotive, Jardine Cycle & Carriage, and Eurokars are the examples of large distributors that are authorised to retail multiple passenger vehicle brands.



Source: Frost & Sullivan

Market Size of Passenger Vehicle Interior Modification Market

The market size of passenger vehicle interior modification industry in Singapore is influenced by various factors, including the number of newly registered passenger vehicles as affected by the COE quota, the sales volume in the used PV market, and the new PV owners and used PV consumers' needs on PV interior customisation. These factors, among others, directly attribute to the demand of the PV interior modification products and services in the B2B and B2C markets.



Market Size of Passenger Vehicle Interior Modification Industry in Singapore, 2011–2021E

Source: Frost & Sullivan

Influenced by the limited COE quota during the period from 2011 to 2013, the number of passenger vehicles sold during this period decreases, which resulted in the slight decrease in the market size of B2B interior modification services. From 2014, with reliefs on COE limitation and increase in new passenger vehicle sales, the B2B interior modification market witnessed a recovery in 2014 and a surge in 2015. In 2016, the market size of B2B interior modification products and services reached S\$65.7 million, representing a CAGR of 30.1% from 2011 to 2016. With stable increase in the total number of passenger vehicles in the country, B2C interior modification market increased from S\$9.4 million in 2011 to S\$14.5 million in 2016, representing a CAGR of 9.1%. With the combined effect from B2B and B2C market, the total market size is estimated to increase from S\$80.2 million in 2016 to S\$92.8 million in 2021, representing a CAGR of 3.0% (with 0.7% and 11.3% for B2B and B2C markets respectively).

Going forward, the market size of passenger vehicle interior modification industry is expected to maintain a modest growth, at a CAGR of 3.0% from 2016 to 2021, based on the following basis:

(i) Sustainable demand in both B2B and B2C markets

In Singapore, there were over 550 used PV distributors and dealers, which comprised independent sellers and large authorised PV distributors, for example, Jardine Cycle & Carriage, Wearnes Automotive and Borneo Motors, who all have their own authorised used PV retail departments. These large PV distributors and dealers normally source interior modification products and services from their existing suppliers to ensure the consistency of quality products and services provided to their customers. Therefore, good performance of such distributors in used

PV sales also brings opportunities for the contracted interior modification providers to generate revenue. Many PV owners would prefer purchasing interior modification products and services from their PV distributors as the quality of products and services can be guaranteed. Some interior modification providers who were used to be mainly engaged in the B2B business have also started their B2C business and branded themselves as "appointed suppliers for large distributors" to attract more PV owners from the B2C market from the growing used PV market.

(ii) Steadily increasing number of total registered PVs in Singapore

Going forward, due to the quota limitation and high COE price, the demand and sales volume of used PVs is expected to experience an upward trend as more people will purchase used PVs. PV distributors and dealers will also actively promote used PVs to maintain profitability, which will in turn generate sustainable market demand for B2B interior modification business.



Market Size of PV Interior Modification Industry Breakdown by Customer Type in Singapore, 2011–2021E

Source: Frost & Sullivan

(iii) *PV owners' higher expectations on both the interior appearance and the growing price of leather upholstery*

For leather upholstery segment, the market size increased from S\$12.3 million in 2011 to S\$25.7 million in 2016, representing a CAGR of 15.9%. The variation trend is generally in line with the changes of new registration of passenger vehicles as sales of leather upholstery by interior service providers are mainly driven by the demand of purchasers of new passenger vehicles. In the future, however, the number of new registrations of passenger vehicles is expected to decrease, which will impact adversely on the sales of leather upholstery. Fortunately, with the increasing variety and sales price of leather products, as well as contributed by the stable sales to owners of used passenger vehicles in the B2B market, the decrease in the sales of leather upholstery is expected to be within an acceptable degree.



Market Size of PV Interior Modification Industry Breakdown by Product in Singapore, 2011–2021E

(iv) Increasingly diversified and advanced electronic accessories

The PV electronic accessories segment is expected to continue to grow in the near future. With the development of technology, the types and functionality of electronic products for passenger vehicles are expected to increase to meet the different needs of drivers. As some products can be replaced and installed easily, the sales in both B2B and B2C markets are estimated to grow in the future, which contributes to the expansion of the whole PV interior modification industry in Singapore.

The revenue growth on the used PV market also was driven by the diversified and advanced PV electronic accessories in recent years, such as GPS navigation system, DVR, reverse camera, etc. In the future, more PV electronic accessories are expected to launch in the Singapore market, which will further drive up the average spending of PV drivers on interior modification. Moreover, due to the decline in the number of newly registered PVs in the future, the used PV trading market is expected to be more active. In both the B2B and B2C markets, the sales of interior modification products and services generated from used PVs are expected to surge and surpass the sales generated from new PVs, contributing to a CAGR of 19.5% from 2016 to 2021.

To summarise, benefited by the increasing variety of PV electronic accessories and sales price of leather upholstery, despite the drop in the number of newly registered PVs, the new PV segment of interior modification industry in Singapore is only expected to have a gentle decline. With the increasing total PV population in the future and the growing sales trend of used PVs, the demand for interior modifications in the B2B market is expected to grow, and a large potential for B2C retail of interior modification products and services is also anticipated. The used PV segment is expected to lead the growth of the entire industry, providing more opportunities for market players with resources in both the B2B and B2C businesses.

Key Market Trends

Wide Acceptance in the Market

Due to the rising general income level, passenger vehicle interior modification becomes more affordable by the general public, and the concept of luxury has been extended in the passenger vehicle interiors for not only luxury and ultra-luxury passenger vehicles but also applied in mass brand vehicles. As the passenger vehicle interior modification has been introduced to the Singapore market for years, and the penetration rate of interior modification service for luxury passenger vehicles has been increasing, it is expected that the momentum will continue to pick up in forecast years. With the change of taste by the passenger vehicle owners over time, the general public would tend to have their passenger vehicle modified with customised interiors, equipped with top quality materials and upscale accessories like leather seats and premium electronic accessories.

High Technology

Together with the advancement in digital technology, digital products such as communication equipment, surveillance system and interactive navigation system are widely applied in the market nowadays. The rise of popularity in those products has a great impact on the passenger vehicles design, both interior or exterior, functional or non-functional, and it leads to the increase of many innovative interior modification designs in the market. In the future, it is expected that the technology of passenger vehicle interiors would continue to advance and further contribute the increased popularity of electronic accessories in the market.

Safety

Rising standard of road safety and increasing safety awareness, different advanced technologies or materials have been deployed in passenger vehicle interior modification market to ensure the safety of driver as well as pedestrians in a comprehensive dimension. To address the safety concern, government required passenger vehicle manufacturers to provide better protective passenger vehicle interiors such as head protection. It also brings a large demand for electronic safety accessories including blind-spot detection systems and collision avoidance systems, etc. On the other hand, new but high performance modification materials, regarding road safety, are being launched in the market recently. For instance, high absorbing power foam has been widely used in interior passenger vehicle parts such as door panels, which could significantly decrease the death rate even in catastrophic accidents.

Energy Saving

In line with the global trend of increasing awareness in energy saving, passenger vehicle market emerged from conventional heavy manufacturing business to energy saving green business. Every 100kg reduction of weight makes approximately 0.3 litres less for each 100km driving distance. To consume less fuel during combustion, manufacturers are investing capital into research and development, and one of the most efficient ways to reduce the consumption of fuel is to reduce passenger vehicle weight through changes of passenger vehicle interior modification.

Key Market Drivers

Customisation on Passenger Vehicle Interiors is Popular

With the increase in demand for passenger vehicle parts such as seat covers, steering wheel covers, digitalised rearview mirror and car surveillance system, etc., passenger vehicle interior modification is almost a necessity to end users after purchasing passenger vehicles. The demand for customisation is rising due to the more sophisticated requirement of end users, and the escalating income level allows passenger vehicle owners to furnish their vehicle interiors and turn them into tailor made ones based on their driving habits and personal preferences.

High Standard of In-car Accessories Give Rise to Passenger Vehicle Interior Modification

There is a wide range of choices of in-car accessories and cockpit electronics, and it basically gives rise to the passenger vehicle interior modification market because large number of accessories require assembling process, which is usually done in vehicle workshops. For instance, the introduction of interactive navigation system has increased the ease of driving and safety in vehicles. Also, electronics used in passenger vehicles could provide high quality infotainment. With the convergence of driving safety and enhanced infotainment, passenger vehicle owners who opt for a better driving experience would certainly tend to have higher demand for interior modification especially in the luxury passenger vehicle market, where the passenger vehicle owners most likely are with higher affordability to have their vehicles undergo further interior modification.

Used Car Market Fuels the Passenger Vehicle Interior Modification Demand

In Singapore, the demand for passenger vehicle interior modification from passenger vehicle dealers is essentially contributed by new passenger vehicles and used passenger vehicles. However, due to the expensive but limited COE quota, end users in Singapore tend to purchase used vehicles ranging from six to nine years old, and opt to wait for the de-registration in the following years. According to LTA, the annual sales of new and used passenger vehicles in 2016 are 80,527 units and 104,478 units, respectively, illustrating the fact that focused segment of passenger vehicle market in the country is the sales market of used vehicles, approximately 30% more than the number of new passenger vehicle in the same year. Before every used passenger vehicle goes on the road again, it is necessary to perform refurbishment and interior modification to ensure the functionality, and cater for the demand of new buyers. The surging demand for interior modification in used vehicle market is surely one of the key drivers to boost the market.

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INDUSTRY OVERVIEW

Competitive Landscape of Singapore Passenger Vehicle Interior Modification Market

The market of passenger vehicle interior modification in Singapore is comparatively fragmented with top five players accounting for approximately 47.0% of market share in 2016.





Source: Frost & Sullivan

In 2016, the combined market share of top 10 authorised passenger vehicle distributors and dealers in Singapore reached 71.9%. Jardine Cycle & Carriage ranked first with market share of 14.7%, followed by Borneo Motors and Kah Motor with market shares of 13.7% and 8.8% respectively.





Source: Frost & Sullivan

In Singapore, the majority of authorised passenger vehicle distributors and dealers do not have independent leather seat providers. The reason is that car brands usually have high requirements on the quality of leather seats and related services, and therefore they possess their own sources for leather seats and installation services.

Some authorised passenger vehicle distributors and dealers are allowed to work with local leather seat suppliers after careful consideration and selection. They usually express their needs to several leather seat providers, and ask them to present sales proposals and quotations. It is known as the B2B business model. Currently, there are only two leather seat providers that have contracts with authorised passenger vehicle distributors and dealers.

Most leather seats providers in Singapore are operating on B2C model where they make sales directly to individual passenger vehicle owners. During the warranty period, owners usually have their vehicles modified through their distributors and dealers. When the warranty expires, they can choose to acquire new leather seats from the distributors or independent interior modification workshops.

Company	Year of Establishment and Headquarter	Customer Type	Revenue in 2016	Ranking
TOMO-CSE	1995, Singapore	Authorised passenger vehicle distributors and dealers	S\$4.48 million	1
Company A	1993, Singapore	Contractual vehicle distributors and dealers, non-contractual distributors and dealers, and end consumers	S\$4.03 million	2
Company E	2007, Singapore	Car owners	S\$0.98million	3
Company F	1996, Singapore	Car owners	S\$0.84 million	4
Company G	2011, Singapore	Car owners	S\$0.80 million	5

Ranking of Major Providers of Passenger Vehicle Leather Upholstery in Singapore

Source: Frost & Sullivan

For other passenger vehicle electronic accessories, there are several companies providing such products and installation services for interior usage in Singapore. Some of them are acting as original equipment manufacturers (OEMs) for car brands. Usually, electronic accessories providers also engage in B2C business where they sell technology products and installation services directly to passenger vehicle owners.

Company	Year of Establishment and Headquarter	Customer Type	Revenue in 2016	Ranking
TOMO-CSE	1995, Singapore	Navigation system, reverse camera and sensor, digital video recorder, etc.	S\$8.60 million	1
Company A	1993, Singapore	Display stands and other passenger vehicle accessories	S\$7.09 million	2
Company B	2006, Singapore	Navigation system; multi-media system; entertainment system; reverse camera; reverse sensors	S\$5.99 million	3
Company C	Singapore	Navigation system; multi-media system; entertainment system; reverse camera;	S\$4.33 million	4
Company D	2008, Singapore	Navigation system; multi-media system; entertainment system; reverse camera; reverse sensors	S\$3.52 million	5

Ranking of Major Providers of Passenger Vehicle Electronic Accessories in Singapore

Source: Frost & Sullivan

Major Market Entry Barriers

Limited Skilled Technical Manpower

To provide high quality interior modification services, employing skilled technicians with in-depth industry expertise is key for service providers. In Singapore, the shortage of skilled technicians remains continuously a large obstacle to enter the industry. Recruitment of skilled local technicians who can provide interior modification services in a timely manner remains a primary difficulty for those overseas companies and small local start-ups who want to enter the passenger vehicle interior modification market in Singapore.

High Capital Investment

The PV interior modification industry is a capital intensive industry because huge sums of capital will be required for initial stage of project or sometimes before being engaged. As many interior modification products and materials are imported from overseas, such as leather hides and electronic accessories, certain amount of capital should be invested to build procurement channels and form inventory. To ensure the condition and function of the raw materials used in the modification service,

service providers have to run laboratory test and functionality test. Moreover, equipment and tools are needed to provide modification services, for example to process leather hides into leather upholstery, which also require capital investment.

To overcome this barrier when entering the market initially, current market leaders, such as TOMO-CSE, took actions such as raising capital through bank financing or invoice factoring, leveraging founders' previously established networks in the industry to acquire bargaining power, and optimising supply chain and inventory management to lower costs.

Business Connection

As there is no domestic vehicle manufacturer in Singapore, all passenger vehicles are imported from foreign countries. To be the modification service providers in Singapore, one has to be with good connection with car dealers because of the limited marketing activity they could do which could prohibit their market reach to different car dealers or car brands. In addition, having stable and sustainable supply of passenger vehicle accessories and parts could enable service providers to constantly offer seamless modification service to car owners. Generally, it is a common practice for companies to stock up inventories in case of emergency use.

Complex Consumer Demand

The existing high demands for high-end passenger vehicle accessories and electronic accessories in Singapore give rise to the sophisticated consumer demand in passenger vehicle interior modification market due to the fact that most of the in-car items require proper installation. Companies with insufficient industry expertise and servicing capacity will face difficulties in entering the market. Leading service providers with integrated value chain, good network with car dealers, and large serving capacity are able to provide services catered for consumers' ever-changing demands by providing them with the latest high-end accessories, and modifying vehicle interior with the latest cutting-edge technology

Labour Cost in Singapore

In 2011, the monthly average salary for an employee in Singapore was around S4,334. With the impact of inflation and people's improving living standards, employees' salaries witnessed an increase over the past five years. In 2016, monthly average salary reached S5,074, representing a CAGR of 3.2% from 2011 to 2016.

Monthly Average Salary of Employees in All Industries of Singapore, 2011–2016



Source: Department of Statistics Singapore, Frost & Sullivan

Price of Major Raw Materials

In Singapore, interior modifications that are applied to passenger vehicles are mainly on seats and electronic accessories with specialised functions. The raw materials for passenger vehicle interior modifications are i) imported leather that is used for making leather seats, mats, and other decorating covers, ii) electronic accessories for vehicle usage, and iii) domestic skilled labour force, which are essentially important in interior modification.

Leather imported from overseas into Singapore was valued at US\$36,089.2 per tonne in 2011. Influenced by the increasingly limited global supply of raw hides and skins, the price of leather increased to US\$61,537.4 per tonne in 2016, representing a CAGR of 11.3% from 2011 to 2016.



Average Price of Leather Imported by Singapore, 2011–2016

Source: International Trade Centre, Frost & Sullivan

PV electronic accessories sold in Singapore are mainly imported from overseas, such as Taiwan, Japan, Korea and China, and the rest are provided by domestic manufacturers. PV interior modification product and service providers normally purchase finished electronic accessories from manufacturers and sell to customers along with installation and adjusting services as well as technology supports. Digital video recorders (DVR), reverse cameras and GPS system are the typical PV electronic accessories that are widely used by drivers in Singapore.

Different models of each product are purchased at different prices due to the variance of functionality, quality and brand. The following table shows the average prices of DVR, reverse cameras and GPS system for PV usage.

The average cost price of DVR has been increasing from 2011 to 2016 as a result of improvement in picture definition and increasing convenience in data access. The average cost price of reverse cameras witnessed a decrease trend from 2011 to 2016 due to the declining costs of raw materials and increasingly fierce competition among manufacturers. For GPS system, with the use of escalating advanced technology for the pursuit of higher positioning accuracy and faster navigation, the average cost price has been increasing over the past five years.



Average Cost Prices of DVR, Reverse Cameras and GPS System for Passenger Vehicles in Singapore, 2011–2016

Source: Frost & Sullivan