

Status of the lead/acid battery industry in Malaysia

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Abstract

The Malaysian automotive battery industry has an over-capacity and is experiencing a highly competitive situation in the domestic market. In the medium term, therefore, the industry will concentrate on making advances in battery design and technology, and on improving productivity. The manufacture of industrial batteries is similarly under pressure, particularly from foreign products. At present, it is not feasible to produce locally all the various types of industrial batteries required by the home market.

Introduction

Three years ago, Malaysia was affected by the world economic recession. This was mainly caused by the drop in the country's main commodity prices in world markets. The situation was mitigated to a large extent, however, by the exploitation of petroleum reserves.

Currently, the Malaysia economy is buoyant, with few sectors seriously affected by the present stagnation in the USA and Europe. The GDP has been envisaged to grow by 8.3 to 8.6% in 1991, and similar growth is forecast at a steady rate over the coming two years. This optimism is soundly based on three sectors of the economy:

- (i) exploitation of mineral resources, notably: hydrocarbon oil and gas;
- (ii) influx of billions of dollars of foreign investment;
- (iii) expansion in manufacturing, particularly for the export market: electrical and electronic products, wood and wood products, textile products, off-estate processed products; and for the domestic market: transport equipment, fabricated metal products, construction related products.

Under this scenario of economic success and investment inflow into the Malaysian manufacturing and engineering industry, the motor vehicle trade in Malaysia also went through a 'boom' in 1990, and thus made it one of the fastest growing market sectors in Malaysia.

Vehicle population

The growth in the population of Malaysian motor vehicles is given in Table 1, and that in new registrations is presented in Table 2.

Battery market

Automotive

The battery industry in Malaysia concentrates its efforts not only on the domestic market but also on the export sector.

TABLE 1

Malaysian vehicle population

Vehicle class	Year			
	1987	1988	1989	1990
Private cars	1226152	1287944	1346966	1445463
Commercial vehicles	378682	390570	405720	457799
Government vehicles	50265	51680	52714	72583
Total	1655099	1730194	1805400	1975845
% of growth		4.5	4.3	9.4

TABLE 2

New vehicle registrations in Malaysia

Year	New vehicles	% increase
1987	55037	
1988	77742	41.3
1989	113427	45.9
1990	153372	35.2

TABLE 3

Malaysian battery export market

	Year				
	1987	1988	1989	1990	1991
Number of units	184185	313037	315625	347187	689398
% increase		88	8	10	98.5
Value (M\$)	7497747	13917953	16360393	20203208	38606288
Price/unit	40.71	44.46	51.83	58.19	56.00

Taking an average battery life span of 1.5 years, the domestic battery market for 1991 can be estimated as follows:

Private cars	963642
Commercial vehicles	305199
Government	48389
Original equipment	153372
Total	1470602

The official numbers of automotive batteries exported out of Malaysia are shown in Table 3.

Industrial batteries

The industrial battery manufacturers in Malaysia are facing a great deal of competition from overseas. Major supply of this type of battery in the local market is mostly through imports. The batteries are used in applications of high-technology industry such as: uninterrupted power supply systems for computers, highway tollgates, power supplies for communications, traction batteries for forklift and engine starting, standby power for power stations and remote-area electricity supplies.

In view of the country's New Economic Policy and Industrial Master Plan (1986-1995), a significantly higher demand is expected in the coming years. Many of the facilities being introduced will require standby power. The opportunities are well recognized. At present, however, it is not feasible to manufacture locally the various types of products for the divergent requirements of the local market.

Other batteries

There is a great population of motorcycles in the country. The market size is estimated to be around 3 million units annually. The numbers of batteries required for this market are expected to grow quite significantly due to better affluence amongst the Malaysian work force.

Competitors and Malaysian battery manufacturing capacity

There are 12 manufacturers in Malaysia. The installed and actual production capacities per month are estimated as 305 000 and 180 000, respectively. In the latter figure, the estimated local and export sales are 122 500 and 57 500, respectively.

Legislation for battery manufacturers

The battery industry in Malaysia has been classified by the Government as a heavy, toxic and highly polluting industry. Present governing legislations are the Environmental Quality Act 1974, which covers the Environmental Quality (Clear Air) Regulation 1978, the Environmental Quality (Sewage and Effluent) Regulation 1979, and the Environmental Quality (Schedule Wastes) Regulations 1989. Besides these, there are the 1984 Factories and Machineries (Lead) Regulations to control and monitor manufacturing activity in the industry.

All these acts and regulations contribute to increased costs of battery production. Nevertheless, the industry feels that it is their responsibility to maintain a clean, safe and healthy environment.

Labour

Under the National Development Policy, the manufacturing sector would continue to spearhead the development of the economy in the next decade. This has created a high overall national demand for manpower. Moreover, the cost of labour in Malaysia is rapidly increasing. Therefore, the battery industry will be greatly affected by a high turnover in the work force (shortage) and high costs. These are expected to increase significantly in the coming two years.

Conclusions

In view of the oversaturated installed plant capacity in the industry, the Malaysia automotive battery industry is experiencing a highly competitive situation in the domestic market. The industry is forced to the path of self sufficiency and to operate in the most efficient way. In the medium term, the industry will be inclined to an era of revolutionary advances in both battery technology/design and productivity. Higher-capacity machinery will be employed to increase both manufacturing capacity and product quality to achieve economy of scale to cater for both domestic and export requirements.

By contrast, the industrial battery sector has no plans to expand its production capacity as the home market is presently overwhelmed by a wide variety of foreign products. This battery industry suffered severely from the global economic recession of 1986–1987. Although the situation has since greatly improved, it is still not possible to achieve favourable economics for the wide variety of types of batteries presently available for each application.