

## THE LEAD/ACID BATTERY INDUSTRY IN INDONESIA

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The Republic of Indonesia is an archipelago comprising some 13 000 islands. The 165 million population is drawn from various tribes that live in 27 provinces and its society is largely agrarian, with the majority of the population being farmers or fishermen.

Since the introduction in 1967 of the Administration of the New Order (Law No. 1, known as the Foreign Investment Law), both national and foreign companies have flourished in the industrial sector. Domestic industry has shown particularly rapid growth, and has developed from just assembly procedures into full-scale manufacturing operations. The latter include the construction of automobiles and motor cycles (and their spare parts) as well as a wide variety of electronic goods such as refrigerators, televisions and radio cassette recorders. The battery industry (one of the automotive spare-parts businesses) has experienced a marked expansion from year to year.

With the growth of industrial development, there has been a concomitant increase in the standard of living of the Indonesian people. In turn, this has brought about changes in public opinion and lifestyle. Thus, the battery is no longer thought of solely as an automotive component, but is now widely recognized by different community sectors as a source of power in many applications such as lighting apparatus, televisions, radios, cassette recorders, telecommunications equipment, etc.

Battery usage by the rural community has shifted from the dry-cell primary battery to the rechargeable, secondary battery. In one particular application, rechargeable batteries are employed to expand radio and television reception in regions not serviced by the grid network of the State Electricity Company (PLN). In addition, rural areas are becoming increasingly accessed by good roads, so that transportation of people by two- and four-wheeled vehicles is no longer the monopoly or privilege of those living in urban areas. As a consequence, the public demand for lead/acid batteries has steadily increased. To date, this demand has been adequately fulfilled by local manufacturers who are widely dispersed throughout the Republic.

Twenty lead/acid battery manufacturers, drawn from both domestic and foreign investment schemes and located in Jakarta, Surabaya and Medan,

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\*Representing The Indonesian Storage Battery Manufacturers Association

have established the Indonesian Storage Battery Manufacturers' Association (or GAPPAI) This Association has established good relations with the government and has been recognized as the representative forum of the Indonesian battery manufacturing industry The government freely consults GAPPAI when problems arise within the industry Close cooperation of this type is essential both for the development of GAPPAI itself and for the domestic battery industry

Since Indonesia is a country with political stability, a substantial population and many natural resources, investment can be profitable In particular, there is considerable scope for expansion in the lead/acid market, especially when it is noted that the number of automobiles, motorcycles and televisions registered throughout Indonesia in 1985 was  $1.3 \times 10^6$ ,  $2.7 \times 10^6$  and  $3.5 \times 10^6$  units, respectively, and the annual production is 175 000 automobiles, 275 000 motorcycles and 650 000 televisions (Figs 1, 2)

In 1985, Indonesia produced  $1.5 \times 10^6$  automotive and  $2.5 \times 10^6$  motorcycle batteries, almost all of these were for domestic consumption

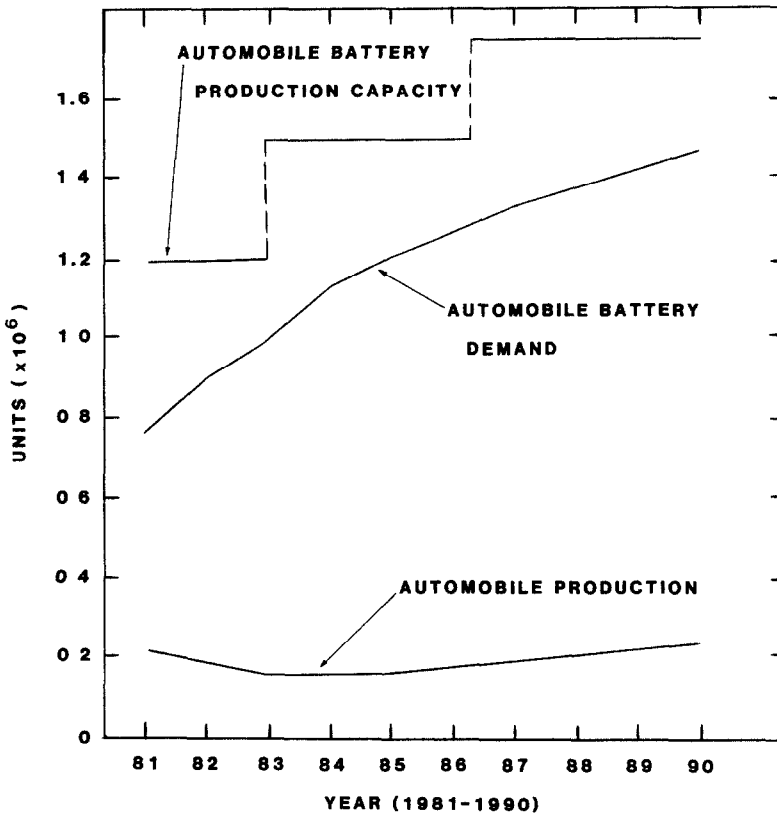


Fig 1. Automobile battery business in Indonesia

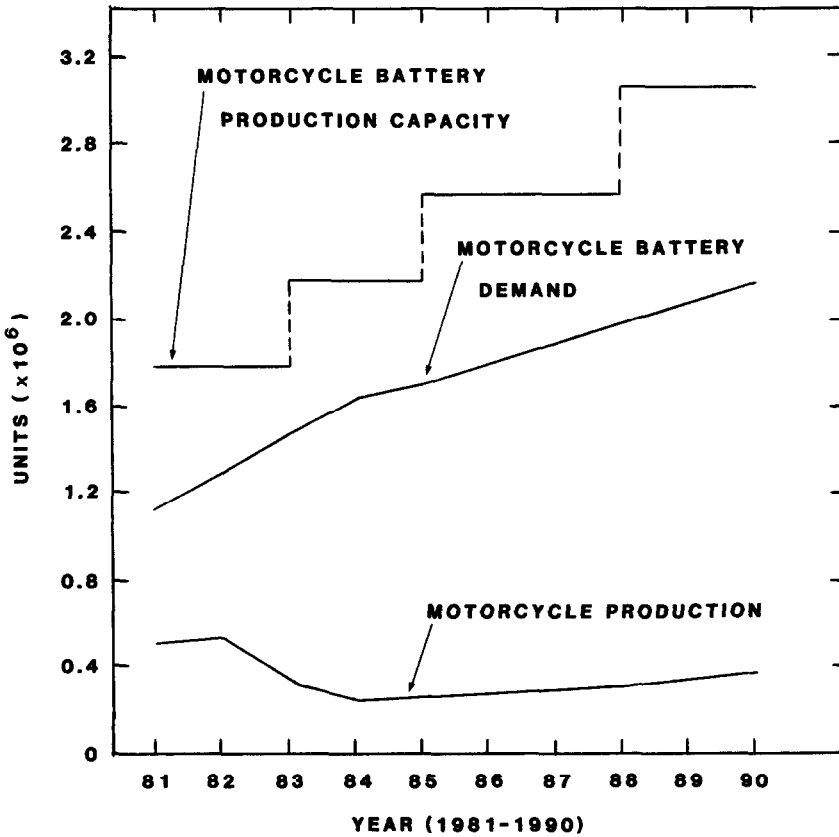


Fig 2 Motorcycle battery business in Indonesia

(about 4% of the automotive batteries were exported). It is forecast that the local demand for both types of battery will grow by about 10% per annum, in accordance with the increase in the community standard of living.