## **Preface**

Lead is the fourth most widely used non-ferrous metal in the world — after aluminium, copper and zinc. Like most metals, lead has a dominant end-use: batteries now account for about 60% of lead consumption. Close cooperation between lead producers and the battery industry is essential for the future prosperity of both groups.

As the world production of automobiles continues to rise, the demand for lead/acid batteries also expands. This is particularly true for Asia where the large population is experiencing rising standards of living and a rapid increase in car ownership. The four tigers are now firmly established, and the emerging tigers of Thailand, Malaysia, Indonesia and the Philippines will ensure that the demand for batteries in Asia remains at high levels through the 1990s.

In today's climate of increasing environmental concerns, lead/acid batteries with recycling rates of over 95% in the industrialized world give lead one of the highest recycle rates of any metal — a definite plus! It is up to all those working with lead to ensure that the metal is produced and consumed in an environmentally friendly fashion. The gathering together of interested parties at meetings of the Asian Battery Conference, and publication of the proceedings to the world at large, is a powerful means towards achieving this aim.

The Asian Battery Conferences are organized by the Zinc and Lead Asian Service (ZALAS) which is an association that provides technical and market development assistance to the Asian region. ZALAS is funded by Pasminco and Mount Isa Mines of Australia, Cominco and Noranda of Canada, and Vieille Montagne of Europe. The first Asian Battery Conference was held in Hong Kong in 1986, the second in Singapore in 1987, and the third in Bangkok in 1989. This volume presents the proceedings of the fourth in the series that was held in Seoul, South Korea. At this meeting, presentations were made on a wide variety of topics that covered technical and marketing subjects, as well as regional overviews and panel sessions. The speakers came from all parts of the world and are experts in their respective fields. Again, there was an overwhelming response to the meeting, as demonstrated by the presence of 395 delegates from over 30 different countries.

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