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Heinz-Albert Kiehne: Batterien

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Batteries are omnipresent in daily life. Whether as primary batteries in numerous applications or as secondary batteries in uses ranging from button cells in all kinds of electronic gadgets to large scale systems as emergency backup power supply, almost no recent technological advance and improvement is conceivable without electrochemical energy conversion and storage devices. From the electrochemists point of view fundamental studies of electrode processes, most suitable electrode and electrolyte materials and general aspects of cell design are of major interest. The end user will be interested in the electrical capabilities, lifetime, price, safety features and various other aspects not exactly close to the daily electrochemists work. Nevertheless, scientific as well as engineering advances will benefit from an improved knowledge of these “applied aspects”. Thus, a book organized along the various major areas of

applications with a focus on large-scale applications in vehicles, photovoltaics and stationary batteries might provide new insights. The present book is a completely revised and updated edition of a collection of contributions provided by several experts in this field. The scope of treated topics and contributions ranges from fundamental aspects of primary and secondary cells going from well established, almost classical cells, to most recent lithium-based and high temperature systems and over the mentioned areas of applications including an overview of relevant norms and regulations. Numerous figures taken in most cases from industrial sources (i.e. showing the “real thing”) provide ample illustration from the users point of view. Although the book is written in German, it will be a helpful addition in any institutional or personal library related to electrochemical-energy storage and conversion.