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The Electrochemical Society
65 South Main Street
Pennington, NJ 08534-2839 USA
Tel 609.737.1902
Fax 609.737.2743
Web: www.electrochem.org

Editor: Krishnan Rajeshwar
e-mail: rajeshwar@uta.edu

Guest Editor: Gesse Brisard

Contributing Editor: Mike Kelly

Managing Editor: Mary E. Yess
e-mail: mary.yess@electrochem.org

Production & Advertising Manager:
Dinia Agrawala
e-mail: interface@electrochem.org

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On Beijing Dragons and Bengal Tigers

China and India. Rarely has more been written and said about the economic ascent of these two nations, which together account for approximately one-third of the world's population. The rest of the world is viewing them with a mixture of awe, opportunism, and even trepidation. The postwar era heralded booming economies in Japan and Korea, thanks mainly to the auto and microelectronics sectors. On the other hand, China and India are powering worldwide growth in a whole spectrum of industries ranging from manufacturing to tech services and back-office operations. Indeed, these two countries possess the manpower and dynamism to entirely transform the 21st century global economy. There are also parallels here with the ascendance of America in the 19th century, flush with high technologies of the era (the steam engine and the telegraph, to name two) and a young, vibrant workforce. However, the sheer magnitude of the two combined economies in China and India, which at \$100 billion will be the world's largest trading bloc, changes the rules of the game altogether in a manner that this country (or Japan and Korea, for that matter) never did. Interestingly, China and India present complementary strengths: China being stronger in manufacturing, infrastructure, and logistics, while India has an edge in the software and information technology sectors. The literacy rate in the two countries is also vastly different, as high as 90% in China versus 65% in India; this figure even falling as low as 33% in the villages in the latter case.

In science and technology, China and India have been no slouches either, their contributions dating several centuries back. For example, gunpowder, paper, the compass, pottery, the number zero, and astrology all trace their origin to these two countries. Ancient archaeological ruins in both parts of the world point to the existence of very advanced civilizations with technological know-how. However, in more recent times, China and India have taken a back seat to the Western nations (and even to their Asian neighbors, Japan and Korea) in innovation; in the case of China, the Cultural Revolution certainly did not help in this regard. Even in the late '90s, China spent less than 1% of gross domestic product on R&D; that figure is slated to grow to 2.5% by 2020, translating to outlays of \$115 billion a year. India has fared somewhat better thanks to a cadre of engineers trained at the prestigious Indian Institutes of Technology and a tradition of excellence in scientific disciplines such as biotechnology, biochemistry, theoretical physics, and mathematics. Even so, both countries pale in the usual R&D and innovation benchmarks such as the number of patent applications or Nobel Prizes, relative to countries like the U.S.

Nonetheless, American universities (like their industry counterparts) have begun to tap into the huge human resource base in China and India by opening campuses and research centers there. This spirit of opportunism and collaboration also pervades organizations like ECS, which is looking at China and India as partners for growth. At the recently concluded biannual meeting in Chicago, I was privileged to be part of the on-going dialogue for launching several initiatives to this end. Stay tuned.

Raj K.

Krishnan Rajeshwar
Editor

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