



And then there were chemical industry

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Textiles left, home electronics left and automobiles are now leaving. Japanese industries has been moving their manufacturing overseas. Although labor costs are not the only reason, those in China and Southeast Asian countries are considerably cheaper, so much so that China has currently become the world's manufacturing center. However, labor costs in China have also been rising mainly in the coastal areas. As a result, a growing number of the companies engaged in labor-intensive manufacturing, such as textiles, are further moving their operations out of China to India and Vietnam. Would Bangladesh or Myanmar be the next to take over production? Accordingly, industries in which labor costs hold the key to competitiveness continue to further seek manufacturing bases with cheaper labor. Especially with the recent dramatic appreciation of the yen, many companies are finding it difficult to maintain domestic production activities and are considering shifting their operations overseas. It is necessary that an environment conducive to domestic production be developed to prevent companies from making an unnecessary shift overseas. While the yen's current high value is not expected to continue, I wonder which manufacturing industries will remain in Japan in the future.

I think it would be industry closely related to academia. In Japan, there are universities conducting eminent research activities and a certain type of industry where corporate activities can only be pursued with them. This is the chemical industry. In the chemical industry, the key to competitiveness is technology, and hence the research and development that produce such technology. Collaboration with academia is essential in corporate research and development, and the tendency is strong especially in the chemical industry which deals with raw materials.

Japan's academic standard in the chemical field is high, as indicated by the number of Nobel Prize winners. For example, the University of Tokyo is ranked second, Kyoto University fourth, Osaka University seventh and Tohoku University elev-

enth among the world's universities by Taiwan's university rankings organization, the Higher Education Evaluation and Accreditation Council of Taiwan. According also to the world major university rankings in chemistry put forth by Thomson Reuters Corporation, an international business data provider, Kyoto University is ranked fourth, the University of Tokyo fifth, and Osaka University eleventh.

With the existence of such universities of high standards, the Japanese chemical industry can continue developing in the future while retaining domestic operating bases. However, there remains the issue of maintaining the high research standards of Japanese universities.

Since last year, the Japan Chemical Industry Association has been making efforts to promote industry-university collaboration in fostering human resources under the Human Resources Fostering Program in Chemistry. The program aims to have universities introduce post-graduate courses related to chemistry that provide education that the chemical industry considers to be desirable in terms of human resources development and provide scholarships to support the research activities of distinguished post-graduate students. Furthermore, given that university academic standards reflect the intellectual level of the general public, it is necessary to improve the general public's basic knowledge of chemistry as a study, the so-called "chemical literacy." To this end, more opportunities should be provided to students in elementary and secondary education to learn and become acquainted with chemistry. There are many chemical manufacturers that hold chemistry experiment classes for local elementary and junior high school students, and I hope to provide government support for such activities.

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