



JRI news release

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**Current Status and Issues Surrounding Collaboration Between
Industry and Academia
— Harnessing Collaboration Between Industry and Academia to Revitalize the
Economy of the Kansai Region —**

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Overview

The sharp acceleration, in recent years, of the movement to transfer manufacturing bases to the Asian mainland is due not only to the gap in personnel costs between Japan and the rest of Asia, but also to the astonishing technological progress seen throughout Asia. To combat this drain, Japan needs to achieve the transition to a research & development-led, knowledge-intensive industrial structure by increasing its ability to develop new technologies and fostering creative small businesses and venture companies, so as to establish a basis for the creation of products with greater added value.

However, companies are finding investment in research & development an increasingly heavy burden, so that "choice and concentration" and "collaboration with outside agencies" are becoming strategic necessities. For this reason, it is vital that Japan should work to promote collaboration between industry and academia, using the universities that are among Japan's chief intellectual assets to enhance the competitiveness of its industry.

In the United States, measures to create an environment that favors the transfer of technology from academia to industry led to the establishment of venture companies originating from within universities, largely in high-growth sectors such as IT and biotechnology. This is said to have played a key role in America's escape from the recession to which it had been prey since the 1980s and the revitalization of its economy.

Reasons for the growth of collaboration between industry and academia in the United States include (i) the Federal government's adoption of stronger measures for the protection of intellectual property rights (the "pro-patent policy"), (ii) the transfer of military technology to the private sector at the end of the Cold War and (iii) the complementary needs of the universities, which were forced to seek new sources of funding due to the contraction of the Federal government budget, and industry, which was looking to outsource research & development work.

The success of collaboration between industry and academia in the United States is partly due to the existence of TLOs (technology licensing organizations), whose purpose is to protect inventions born in universities with patents and to license the technology. As the TLOs became more active, the number of university-

originating ventures grew. Moreover, the spread of collaboration between industry and academia has led to a general enhancement of university research functions and the reinvigoration of local economies with universities serving as a focus of regional development.

Although it boasts the highest level of investment in research & development after the United States, and the standard of research & development work is extremely high, Japan's overall international competitiveness is declining year by year. One reason is the lack of positive arrangements for plowing the results of academic research back into society. Another is that Japanese industry has by no means taken full advantage of the resources offered by Japanese universities. For this reason, it is important that regulations which present an obstacle to collaboration between industry and academia be abolished, and, in recent years, the government has, in fact, come up with a series of measures to encourage collaboration.

Reflecting this trend, steady progress may be seen in terms of efforts to plow the results of academic research back into society, number of patent applications filed, joint research work by universities and private businesses, and commissioned research work.

Moreover, since the enactment of the law for the promotion of the transfer of technology from universities, etc. to industry in 1998, a number of major Japanese universities have established TLOs, and the number of patent applications filed and number of transfers of patent rights to the private sector through TLOs is rising. The track record of TLOs in the United States far outshines that of their Japanese counterparts, but most of Japan's TLOs have been in existence for only around two years, and their operations have only just got off the ground.

Allowing for the fact that the United States has a 20-year head start, there is hope that their contribution will grow in the future.

In the Kansai Region, the establishment of new businesses, including venture companies, has slowed virtually to a standstill. In the 1990s, the number of new companies established in the Region fell significantly below the number of companies closed down. When fewer new businesses are being established, the metabolism of the business sector slows, and economic vitality declines. Steps should, therefore, be taken to encourage the creation of new businesses in the Kansai Region, by promoting collaboration between industry and academia. Although universities in the Region yield technological seeds in abundance, there has been little collaboration between industry and academia, including joint research work, to date.

By contrast, in recent years, the number of venture companies generated by universities in the Kansai Region, and the track record in technology transfer of TLOs, have bettered the national average. If steps are taken to nurture these tender shoots, if full advantage is taken of the potential for technology development, and if the commercialization of the technological seeds produced by universities in the region is promoted, in collaboration with the local community, we can expect to see a revival in business establishment in the Kansai Region.

If collaboration between industry and academia in the Kansai Region is to be encouraged, the major issues will include (i) providing greater support for the establishment of new businesses by strengthening local community networks, (ii) promoting collaboration between academia and research & development-based

companies in the Kansai Region, (iii) forming industrial clusters near universities, and (iv) establishing infrastructure for the supply of risk money.