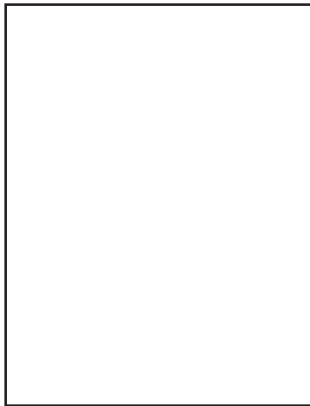


Commercialization of technologies from public laboratories by facilitating start-ups

Hokoon Park

Knowledge and technology are perceived today as the driving forces of economic growth and national productivity. In this perception, commercialization of R&D results is critical for sustaining growth. Among the various alternatives available for technology commercialization, creating technology-based entrepreneurial start-ups is considered a very effective route. This article describes the usual methods, major considerations and key issues involved when public laboratories create technology-based start-ups. The study is based on the experience of the Korea Institute of Science and Technology (KIST) and reflects Korean government policy towards facilitating entrepreneurial start-ups.



Dr. Hokoon Park

*President, Korea Institute of Science
and Technology
P.O. Box 131, Cheongryang, Seoul
130-650, Korea
Tel: (+82-2) 9585001
Fax: (+82-2) 9585100
E-mail: hpark@kist.re.kr*

Introduction

Science and technology (S&T) are recognized as important variables that influence future socio-economic development and national objectives. In addition, when involved in commercializing R&D results, science and technology are driving forces that create wealth.

Technology commercialization is a process of converting research results to successfully marketable products. Commercialization is often thought of as an orderly series of steps, beginning with building a prototype, testing its feasibility and completing product development and design. The ability to commercialize technology - to move a technology from concept to market quickly and efficiently - is crucial in transferring technologies from public laboratories.

Technology commercialization can be driven in four ways - by technology; by

new markets; by-product or process improvement; and by end-game.

Technology-driven commercialization emphasizes basic science and is characterized by high risk and uncertain applicability to business needs. New market-driven commercialization emphasizes searching for solutions through the fusion of existing technologies from several industries. Product and process improvement-driven commercialization is carried out for improving performance or efficiency by creative use of established existing scientific and engineering knowledge. End-game commercialization is conducted to get a competitive edge in a mature market on the basis of analyzing competitors' products.

Of these, it is the technology-driven commercialization that generally applies to public laboratories.