

Part I

Accelerating Open Innovation
— Toward Sustainable Innovation Co-created by Industry,
Academia, and Government



Introduction

A culture of “boldly challenging the future” will be cultivated to create future industries and transform society. A Society 5.0 (super smart society) designed to make people prosperous will be posed to shape our future, and efforts will be enhanced to build a framework to continually create new value, services, and businesses. Science, technology and innovation (STI) will also be strategically utilized in international collaboration to help address both domestic and international issues. To respond flexibly to any change, the foundations of STI will be strengthened to achieve knowledge implementation with a sense of speed into society. An open, global innovation system will be built to better develop and secure brilliant professionals. The 5th Science and Technology Basic Plan (approved by the Cabinet on January 22, 2016; hereinafter, the Science and Technology Basic Plan is referred to as “the Basic Plan”) positions these as Japan’s main focus.

Japan aims to bring Society 5.0 — a completely new kind of society — to fruition ahead of the rest of the world. Society 5.0 is defined as:

- a human-centered society in which people can lead high-quality lives full of comfort and vitality;
- which is achieved by balancing economic advancement with the resolution of social problems through the provision of goods and services that are meticulously tailored to diverse latent needs, regardless of locale, age, sex, language, or any other consideration; and
- which also achieves the advanced fusion of cyberspace and physical space.

To make this kind of society a reality, it will be necessary to make the best possible use of the wide range of knowledge, technologies, and talented personnel across the globe. Right now, we need a global open innovation system that brings together personnel with a diverse array of expertise to work as a team to create new knowledge and value, mobilizing knowledge and skills from within organizations and outside them, rather than having to create knowledge and skills from scratch themselves.

At the same time, the 5th Basic Plan sets out the challenges that Japan faces in the realm of open innovation, stating, “It is also noteworthy that industry–academia collaboration has yet to reach full maturity. Indeed, much of the current industry–academia collaboration is on a small scale, and there is still little mobility for researchers across organizations and sectors. Startup companies and the like have yet to reach the point of structurally transforming Japanese industry. ...the mechanism for filling the gap between company needs and the knowledge and technology generated by universities has not fully performed its function to date. This is leading to deficiencies in Japan’s ability to innovate through science and technology.” So what factors lie behind the failure of open innovation to get underway in earnest in the years since the 1st Basic Plan charted a course for promoting industry-academia-government collaboration?

Chapter 1 of this white paper provides a fresh understanding of open innovation and explains why we need open innovation right now, while looking at changes in both the economic and social background and the situation surrounding universities and public research institutions. Chapter 2 analyzes the current

situation in concrete terms, examining why open innovation has not yet gained momentum in Japan. We hope that highlighting the challenges that our nation faces will shed light on the direction that should be taken in promoting open innovation hereafter.

The closing sentences of the introduction to the 5th Basic Plan are as follows. “...universities must be reformed with the recognition that they contribute to society through their education and research, and partnerships between industry, academia, and government must be expanded.... Executing the Fifth Science and Technology Basic Plan will require a wide spectrum of parties—including the government, academia, industry, and citizens—to work together....we will...secure safety and security for our country and citizens, make lives more prosperous, and contribute to global development.”

We will look once again at what approaches to open innovation based on industry-academia-government collaboration are needed right now to secure Japan’s future, with a particular focus on universities and national research and development agencies (hereinafter “R&D agencies”), of which our nation has high expectations.

There are various ways to generate innovation and all organizations have been pursuing innovation through trial and error for some time. We hope that this white paper will serve as one means of generating innovation by providing information that is useful both for organizations that are already working on open innovation and those that are about to start addressing it.