

Conclusion

The White Paper on Science and Technology 2016 started with a vision of our society 20 years from now.

This envisioning was not done to predict or accurately determine our future society. It was done to provide an opportunity to think about the kind of society we want to have, in light of current exploratory R&D and future visions that are developed on the basis of R&D-related social changes. Solutions to the socioeconomic problems we now face will lead to a better society, and that society should be realized by those who have a clear vision of the kind of society they want.

Those who are hoping to realize a society of the future and who want to influence that society will come up with unexpected new ideas and with novel services that match the needs of consumers. Competitive advantage is achieved by those who collect virtual and real data, and use it to strategically enhance their strengths in order to create innovative products and services that meet customer needs and by those who can establish themselves as cross-industrial platformers. We will see changes in employment circumstances as well as in industrial structure. Rapid advances in artificial intelligence and other technologies significantly affect those who engage in unskilled labor. At the same time, the importance of specialized jobs and services that require creativity and cooperation is growing. We need to be prepared for these socioeconomic changes.

Since the term “artificial intelligence” was introduced at the Dartmouth Artificial Intelligence Conference in 1956, artificial intelligence has twice overcome winter-like hardships. Now, a new age of artificial intelligence technologies is beginning. We have seen advances in technologies for not only artificial intelligence, but also computers, networking and robots. The efforts of predecessor have resulted in steady technological progress. In that process of technological advancement, Japan has identified the fields in which the country has strengths and ranks with other advanced countries, as well as the fields in which the country lags.

It is necessary to reinforce Japan’s strengths and compensate for its weaknesses through the integrated efforts of the stakeholders; government, industry, academia and scientists of all disciplines including the Humanities and Sociology. In anticipation of the advent of a super smart society in which “game changes” frequently take place that immediately affect the international competitiveness of companies, industries and even countries, many countries are rapidly advancing public and private efforts, such as Industrie 4.0 and Industrial Internet, in order to get ahead of their global economic competitors. To create innovations, Japan also needs to rapidly advance national efforts by enhancing basic technologies and developing systems necessary for increasing the use of data, as well as by creating structures and reforming regulations regarding investment in R&D.

A super smart society will be realized for our children to live in. Technological innovations in artificial intelligence will increase the value of those human activities that require particular sensibility and sensitivity. It will also help humans to exercise their creativity and communicate with each other more smoothly. Highly skilled professionals need to be fostered and social changes will take place much faster than ever so, educational reform should be implemented steadily.

Many countries are in line with the current sweeping trend of realizing a super smart society before

the rest of the world. Japan cannot go against the tide of the times. Technological innovation alone is not sufficient. An urgent priority for Japan to take a step towards the creation of a super smart society must be the implementation of “Society 5.0,” which represents a series of integrated efforts for promoting R&D and systematization and for making revolutionary changes to methods of creating innovations, as well as for developing and securing excellent human resources.