

Bridge a Gap between Nanotechnology R&D, Business and Public

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ABSTRACT

I outline a new research project “Developing knowledge-based platform to support nanomaterials R&D for public acceptance” which has been started September 2007 with focus on National Institute of Advanced Industrial Science and Technology (AIST). We conduct research “Use of information and communication for facilitating public acceptance”, which is one of the research components of a new research project. This research project aims to provide useful method for healthy development of nanotechnology. In the research, we deliberate communication tools and will recommend effective and suitable ways of providing information for public and society about nanotechnology R&D.

Keywords: public engagement, social implications, policy recommendations

1 INTRODUCTION

Initiatives to address the social implications of nanotechnologies have steadily progressed since 2004 in Japan. Meanwhile, there has not been a significant progress in practical applications for core nanotechnologies, which would normally be the most important and major pursuit. Exaggerated expectations for nanotechnologies may have moderated somewhat, and Japanese nanotechnology has now entered a stage of sound efforts toward risk management for nanoparticles, the development of nanotechnology standards, and a steady approach toward practical applications of fundamentally useful core technologies for nanotechnologies.

2 PUBLIC AND NANOTECHNOLOGY

We understand importance of public engagement into R&D process from the very beginning. Because if nanotechnology R&D goes well as researchers, investors and policy makers anticipate, economic and social structure will be transformed and our everyday life will change dramatically and may permanently. Nanotechnology products, although the definition still uncertain, already prolific in market, as cosmetics, sporting materials, or food

ingredients [1]. Public attitude toward nanotechnology is not bad in Japan currently. Many consider nanotechnology will be useful to their life and to society [2]. But we are concerned that favorable attitude toward nanotechnology is based not on knowledge of actual nanotechnology R&D, but on surreal images about what nanotechnology may realize. Advancing nanotechnology R&D on such unstable and unreliable foundation is not healthy. This is clear when you look at other so-called emerging technologies closely. For example, genetically-modified organisms are not fully accepted in Japan or Europe. An advantage for addressing social implications of nanotechnology R&D is that it is allowed to learn from many precedential example technologies which were also expected to change society.

3 RESEARCH ON SOCIAL IMPLICATIONS OF NANOTECHNOLOGIES IN JAPAN

Every actor who takes part in nanotechnology R&D is responsible for providing information without concealing risks or exaggerating benefits of nanotechnology. Since nanotechnology R&D is involved in various research fields and multi-disciplinary in nature, single ministry or research institute can not properly manage issues originated from nanotechnology R&D or nanomaterials. This is true for activities for addressing social implications of nanotechnology. Under this concept, we started open forum “Nanotechnology and society” in 2004, where various stakeholders participated. However, our way of addressing social implications of nanotechnology R&D was not fully accepted in Japan in the beginning.

Some factors that may have delayed efforts to address societal implications are that, even though risk assessment and risk management are expected topics in the context of public acceptance, the word “risk” takes on a strongly negative connotation when translated into Japanese, people tend to fixate on the issue of “safety” rather than “risk,” and the net effect is a resistance to conduct research for risk assessment and risk management.

Our patient effort has gradually borne fruit. We conducted novel endeavor with three other public research institutes under the different regulatory ministries, which was unprecedented cooperation. We studied ways to help

nanotechnology truly accepted in society and benefits people. After one year project, we submitted policy recommendations to the government, public institutes and private industry [3]. The policy recommendations were reflected in the Third Science Basic Plan which was prepared by the Council for Science and Technology Policy and has been in force since April 2006. The Third Science Basic Plan clearly stipulates that the government is responsible for addressing social implications of nanotechnologies. As a result, under the Third Science Basic Plan, the Developing Nanotechnologies and Engaging the Public is newly added to the Coordination Program of Science and Technology Projects [4]. The project that I introduce in this paper is a supplementary program for this new framework.

4 NEW RESEARCH PROJECT

The new research project has been launched in September 2007 and will be completed by the end of fiscal 2009. It aims to develop useful index for knowledge-based platform which supports nanomaterials R&D in industry. This research project is headed by University of Tokyo. AIST and National Institute for Materials Science participate in the project by making full use of the characteristics of each institute [Figure 1].

AIST contributes by studying communication with public and identify social trend to recommend an effective and suitable way of providing information and meaningful engagement of public into nanotechnology R&D process.

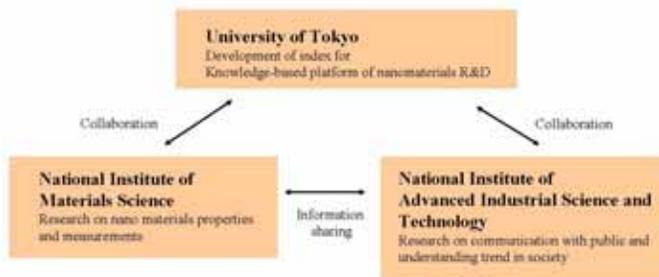


Figure 1: Implementation structure of the project

5 CONCLUSION

Nanotechnologies have the potential to offer solutions to a variety of problems facing the world we live in today. Advancing nanotechnology R&D to reach this ultimate goal is not easy task. Our new research project contributes to the issues by utilizing our knowledge and experience that acquired through past and on going research and related activities.

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