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Provisional Translation

February 27, 2014

Twenty-three Measures Aimed at Accelerating Private Sector-Led Innovation
–Aiming for Effective Industry-Academia-Government Partnership–

＜Summary＞

Outline of Proposal and Specific Measures for Implementation

Radical innovation can lead to revolutionary changes in society. For such innovation to happen in Japan, the state should take stronger initiatives for the medium- and long-term development of technologies that may involve high risks. The Defense Advanced Research Projects Agency (DARPA) of the United States is one example of state leadership. In Japan, innovative research and development programs have been led by the Council for Science and Technology Policy.

In this, Keizai Doyukai has compiled various specific measures to encourage private sector-led innovation, which is an engine of economic growth and source of corporate competitiveness. Corporate managers are expected to implement the following set of measures in order to encourage innovation. The state, public research institutes and universities should support the private sector's efforts by helping it reform relevant institutional systems. What is important for all these parties—businesses, the state, public institutions and universities—is not to seek results overnight but to do everything possible to build up successful experiences each of which may be small.

1. Corporate Efforts: Responsibility as Corporate Managers

1.1 Corporate managers should envision the future of their business, explore promising advanced technologies fully using their global perspective, and ensure that engineers gain a full knowledge of users' needs.

(1) Presentation of a specific future vision by the top leader, formulation of a scenario to help solve social issues and problems facing users

(2) Expansion of M&A and investment in venture companies, both for open innovation: Initiative taken by top leader and Chief Innovation Officer (CIO)

- Creation of a task force in charge of exploring promising advanced technologies around the world, and promotion of technological partnership and M&A

- Establishment of investment funds targeting venture firms including corporate venture capitals - Establishment of joint ventures between large companies and venture firms and of technological research associations between them

(3) Creation of development concept for new products by engineers well versed in users' needs

(4) Development of new products for not only the domestic market but also global markets

1.2 Valuing "crazy" ideas that might lead to "destructive" innovation; establishment of an organizational structure, corporate culture and business environment that might support such innovation

(5) Creation of an innovative product development team that is separate from the existing corporate structure and placed under direct supervision of the top management

(6) Establishment of a personnel management system and an organizational culture that encourage "crazy" ideas, including a 20% rule allowing employees to allot 20% of their work hours for that purpose.

1.3 Japanese companies should depart from a self-contained approach in research and development as well as human resources policies. They should allocate more of their research funds and human resources to universities and public research institutions located both in Japan and abroad, while fully using the knowledge and technological expertise accumulated there.

(7) Drastic expansion of funds provided by private-sector companies (especially large companies) to universities for contract research

- ¥90 billion at present (representing 0.7% of companies' combined research and development expenses) → ¥250 billion (representing 2%)

- Conclusion of long-term (about 10 years) industry–academia partnership contracts

(8) Promotion of mutual exchange of researchers between private companies, and universities and public research institutions

1.4 Fostering of research and development leaders with a global perspective, and promotion of global research and development activities

(9) Dispatching more employees overseas (especially young workers)

- Dispatch to U.S. and European research institutions and major universities, which are diverse on various fronts,

(10) Active use of foreign researchers under Japan's research and development system promotion of development using global human resources with different culture and approaches in R&D.

2. State Efforts: How Public Research Institutions should be

2.1 Formation of social consensus that the benefits and results arising under industry–academia partnership should be praised.

(11) Incorporation of the following three mechanisms into the university system to make industry–academia cooperation workable.

1) Reflection of not only the number of papers but also the achievements made under industry–academia cooperation in personnel evaluation

2) Expansion of financial incentives (performance-linked annual salary, mixed salary, cross-appointment system)

(Government's plan: introduction of annual salary system: 20% of teaching staff covered at research universities and 10% at similar universities)

3) Introduction of flexible working-hour system and deregulation of a rule banning side jobs for full-time researchers.

Review of the current rule prohibiting full-time research staff at state-run universities and state-run research institutions from taking side jobs with a view to allowing their salary receipt from two or more employers

2.2 Fostering of a public research institution that can serve as an intermediary to help create small- and medium-sized companies with unique technologies and development abilities

(12) Expansion from the current 5% to 20% in the ratio of revenues that the National Institute of Advanced Industrial Science and Technology (AIST) earns from research and development for private companies

(Efforts to strength the AIST's function of receiving research orders especially from venture firms and promising small- and medium-sized companies)

(13) Adoption of a fund-raising system in which the AIST can acquire larger public funds from the central government in accordance with an increase in research revenues from the private sector

(14) Acceptance of researchers for fixed-term employment upon the conclusion of a project (companies, universities, public research institutions)

2.3 Active use of venture firms in state-led national research and development projects

(15) Review of heavy reliance on major companies in national projects through active use of college researchers, students and venture firms in national industrial technology development projects (by New Energy and Industrial Technology Development Organization (NEDO), Japan Science and Technology Agency (JST))

(16) Expanded allocation of research funds by NEDO to venture firms, and small- and medium-sized companies

- Expanded allocation of national project funds to venture firms, and small- and medium-sized companies
- Expansion of a ceiling in subsidies to innovative venture projects (from the current ¥10 billion)

⇒ Maximum fund allocation currently set at ¥10 billion +α → expansion to nearly ¥50 billion

3. Efforts by Universities

3.1 Incentives aimed at promoting industry–academia cooperation should be expanded and commercially viable projects should be launched.

(17) Establishment of three mechanisms to make industry–academia cooperation workable

1) Reflection of not only the number of papers but also the achievements made under industry–academia cooperation in personnel evaluation

2) Expansion of financial incentives (performance-linked annual salary, mixed salary, cross-appointment system)

(MEXT proposal: introduction of annual salary system: 20% of teaching staff covered at research universities and 10% at similar universities)

3) Introduction of flexible working-hour system

Review of the current rule prohibiting full-time research staff at

universities from taking side jobs

(18) Active recruitment of people experienced in business fields and their participation in industry–academia partnership projects

3.2 Fostering of university-led venture projects and improvement of the environment to promote such projects

(19) Active efforts to secure industrial technology development funds from NEDO and JST, and use them to train young researchers and foster venture firms

(20) Dispatch of young researchers at universities to business corporations to promote industry–academia exchanges, with a view to increasing the number of teaching staff at colleges experienced in private business

(21) Inauguration of product-development projects and mobilization of experts in various fields to realize these projects (example: marketing, intellectual property rights, legal affairs, ethics and sociology)

(22) Expansion of funds to support university-led venture projects

(23) Building of a regional innovation network where local universities and companies play a central role

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