

JST中国総合研究センター 国際シンポジウム
パネルディスカッション II

科学技術イノベーション政策と 日中協力の新展開

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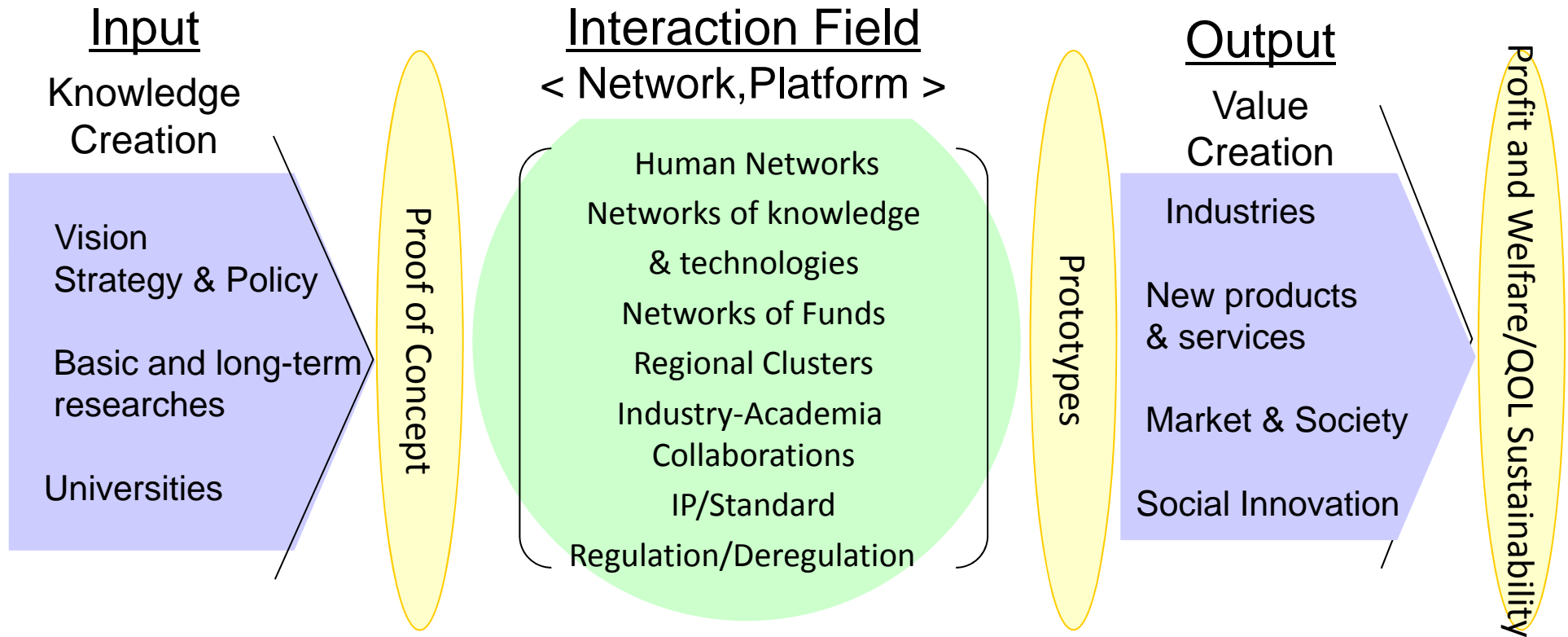
Innovation for what in the 21st century ?

- Innovation for profit
- Innovation for competitiveness
- Innovation for growth
- Innovation for employment
- Innovation for wellbeing & quality of life
- Innovation for safety, security & social cohesion
- Innovation for sustainable development

Innovation horizon is expanding.
Rules of games is changing. Rethink, redesign and rebuild.

Innovation Ecosystem

[Global, Regional,
National & Local]



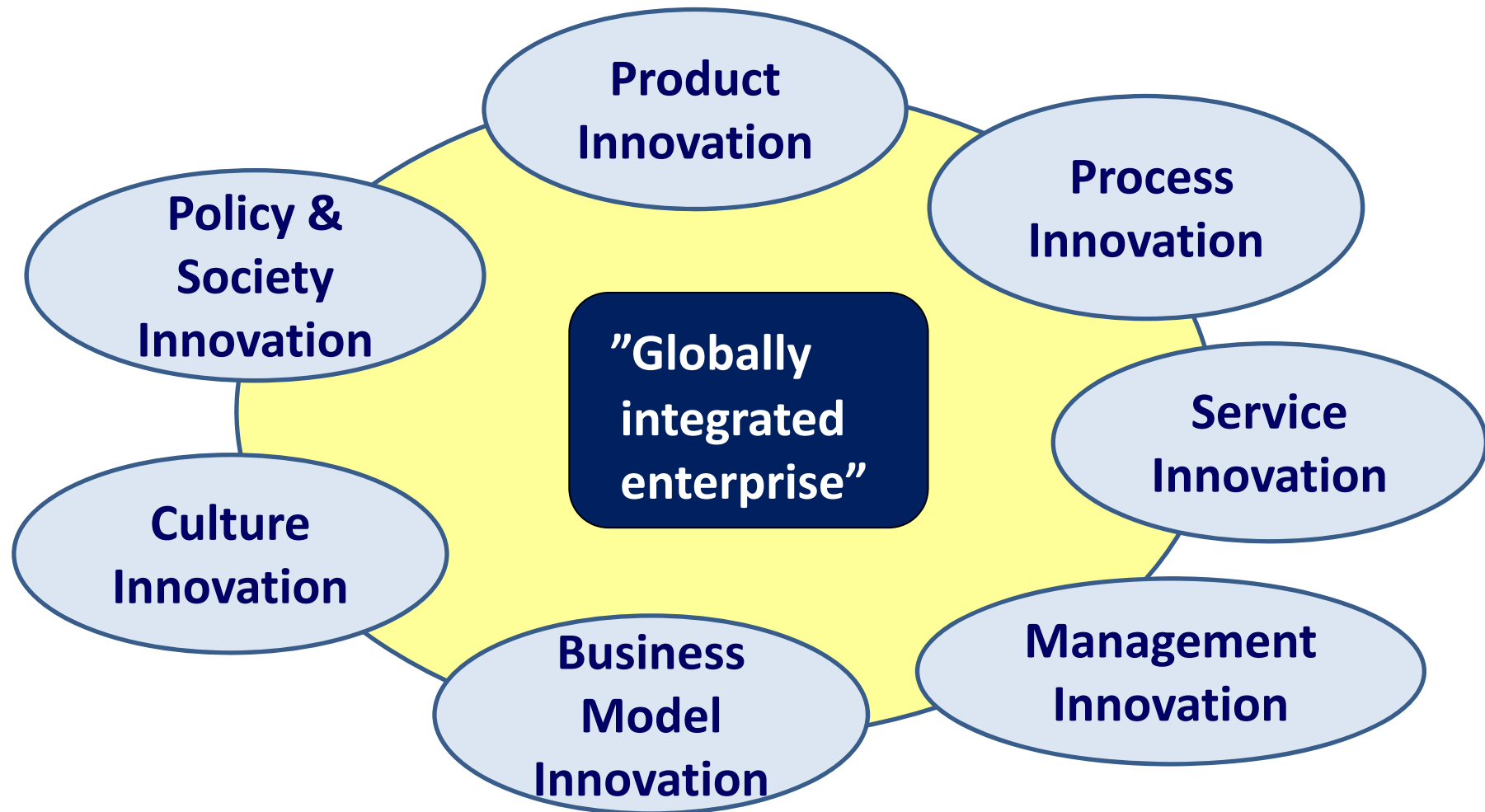
Funding : public, angel, VC, company

Human Resources/Education: nurture talents, brain circulation

Social wishes & needs, Foresight, Social acceptance, TA & ELSI

Competition & Collaboration

Expanding the innovation horizon in business



○How do you integrate your corporate culture with local cultures on five continents?

S.Palmisano, IBM
"Foreign Affairs", May/June,
2006

New Perspectives for Science and Innovation

- Bridging science and society/market
- Beyond the boundaries (disciplines, organizations, generations, nations)
- Network, Platform, Connectivity for Innovation
COE (Center of Excellence)
⇔ NOE (Network of Excellences)



- Transformative research, Converging Technologies, Full research
- New innovation model
 - * Disruptive Innovation (by Christensen)
 - * Reverse Innovation (by Immelt)
 - * Frugal Innovation (by Govindarajan & the Economist)

4th Science and Technology Basic Plan (1)

Basic concept

Positioning of the Basic Plan in National Strategy

- A five-year-plan with the foresight of 10 years ahead, based on “New Growth Strategy”.
Comprehensive promotion of science, technology and innovation policy
- Perspective for 2020
 - Nation which realizes sustainable growth
 - “ takes the lead in solving global issues
 - “ create the world’s highest knowledge
 - Nation which takes pride in high quality of life
 - Nation where the youths hold a dream

Two major innovation as the national strategic pillar

Green Innovation

To realize low carbon society with sustainability

- Renewable energy, Low carbon of energy supply and demand, Saving energy, Green infrastructure
- Accelerate innovation by affirmative legal framework
- Establish “National Lab” with proper regulation easing
- Develop strategies for the international standardization

Life Innovation

To realize high quality of life in an aging society

- Promotion of preventive medicine, Development of innovative diagnostic and treatment method, Development of life-supporting technology for elderly and disability people
- Promote translational research
- Promote regulatory science
- Accelerate innovation by affirmative legal framework

The new system which stimulates innovation

To construct the system which promote issue-driven innovation

- Establish Innovation strategy platform
- Establish Open innovation centers
- Create a new market by the new affirmative legal framework

4th S&T Basic Plan (2)

Promotion of R&D which sustains the nation and produces new advantage

Bases for the high quality of life

- Maintain necessities: food/resources/energy
- Maintain safe society



Bases for the industries

- Extend advantage of Japan
- Create new advantage for the future



Bases for the nation

- Maintain a technology bases for security
- Develop a new frontier



Common Base for R&D

- Maintain cross-sectional key technologies
- Establish hubs of advanced R&D



Drastic Reinforcement of S&T Potential

Drastic reinforcement of basic research

- Reinforce basic research based on originality/variety
- Reinforce the world top-level basic research
- Form the group of "Research Universities"
- R&D Hub for International research network

human capital for S&T

Drastic reinforcement of the graduate school education

Formation of research environment of international standard

- Domestic/international maintenance and utilization of large research facilities

International openness Integrated with world vitality

"East-Asia Science and Innovation Area" Initiative

Implementing the new policy

Reforming S&T System

: Construction of PDCA (Plan-Do-Check-Action) cycle

Bridging Science and Society

: New development of S&T communication

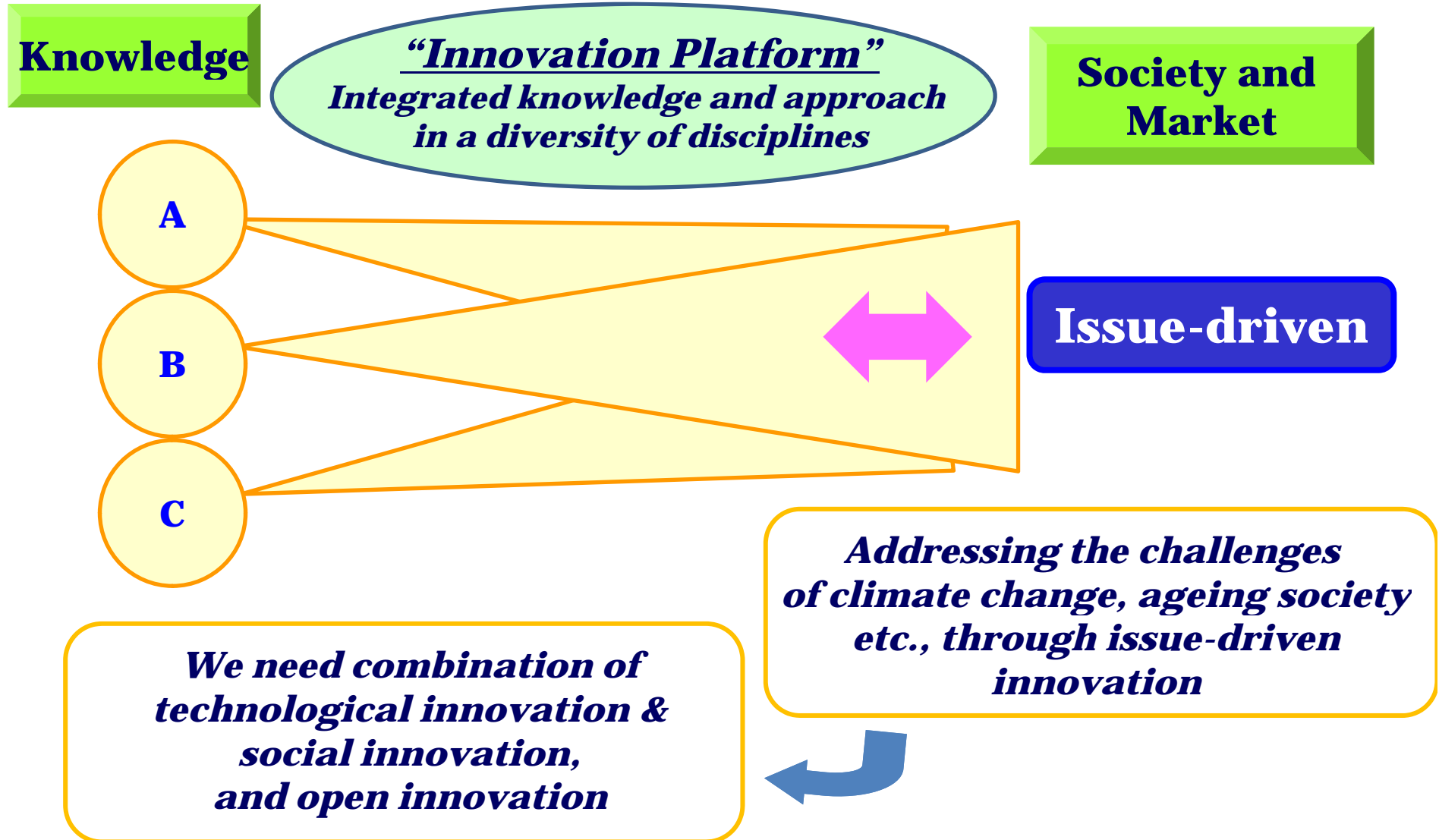
Increasing R&D investment

: Increase public and private R&D investment to 4%(3.6), and government investment at 1% (0.7) of GDP <250 B\$>

Grand challenges we should meet

- The world is confronted with the global challenges of climate change, food, energy & water security, infectious diseases, aging society, cities and poverty which threaten sustainability.
- The New Growth Strategy should be empowered by S&T and innovation to transform the grand challenges to opportunities for thriving in the global competition and collaboration.
- Due to complexity of the challenges, it is getting more difficult to find a solution by single discipline of S&T. We need combination of tech. innovation and social innovation.
- A diversity of knowledge derived in different disciplines of S&T along with social science and humanities should be integrated to address the challenges, which is characterized by “issue-driven innovation” beyond “discipline-based innovation”.

***Grand challenge we should meet;
New Policy : Issue driven innovation
beyond discipline-based innovation***



Shared Norms for the New Reality

(Main Theme of 2011 World Economic Forum in Davos)

<The foremost concern of many leaders today>

A world that is becoming increasingly complex and interconnected.

Experiencing an erosion of common values and principles that undermines public trust in leadership as well as future economic growth and political stability.

-Interconnected Protest against long-term regime (Tunisia, Egypt)

-Shared norms

- ① Strong control of fiscal deficit
- ② Improvement of social welfare (Healthcare, Pension)
- ③ Prevention of inflation(Sharp increase of commodity price, China's Real-estate bubble)
- ④ New growth strategy (Innovation, IT, Employment)

Basic Loop for Sustainable Evolution

by H.Yoshikawa, CRDS/JST

