Strategy for “Smart Convergence”

Creation of Smart Industries Through the Integration of IT and the Existing Industries

1. Basic Concept – Summary

○ Seek to develop elemental technology-independent and “Leading-Edge Integrated Industries” that have a global perspective to meet structural change by digitization and networking in the today’s situation in which it is difficult to increase competitiveness of a specific industry, technology or market.

○ Subject to change with structured and multilayered products and services in the process of digitization and networking, Japan needs to design a total optimization-oriented system – architecture. In parallel, Japan needs to lead design the necessary control systems, a unified platform and social system, and to integrative functions strategically.

○ Develop and implement an ‘action plan’ for key areas and cross-sectional challenges. In parallel, support establishment of a realistic business model in convergence areas.

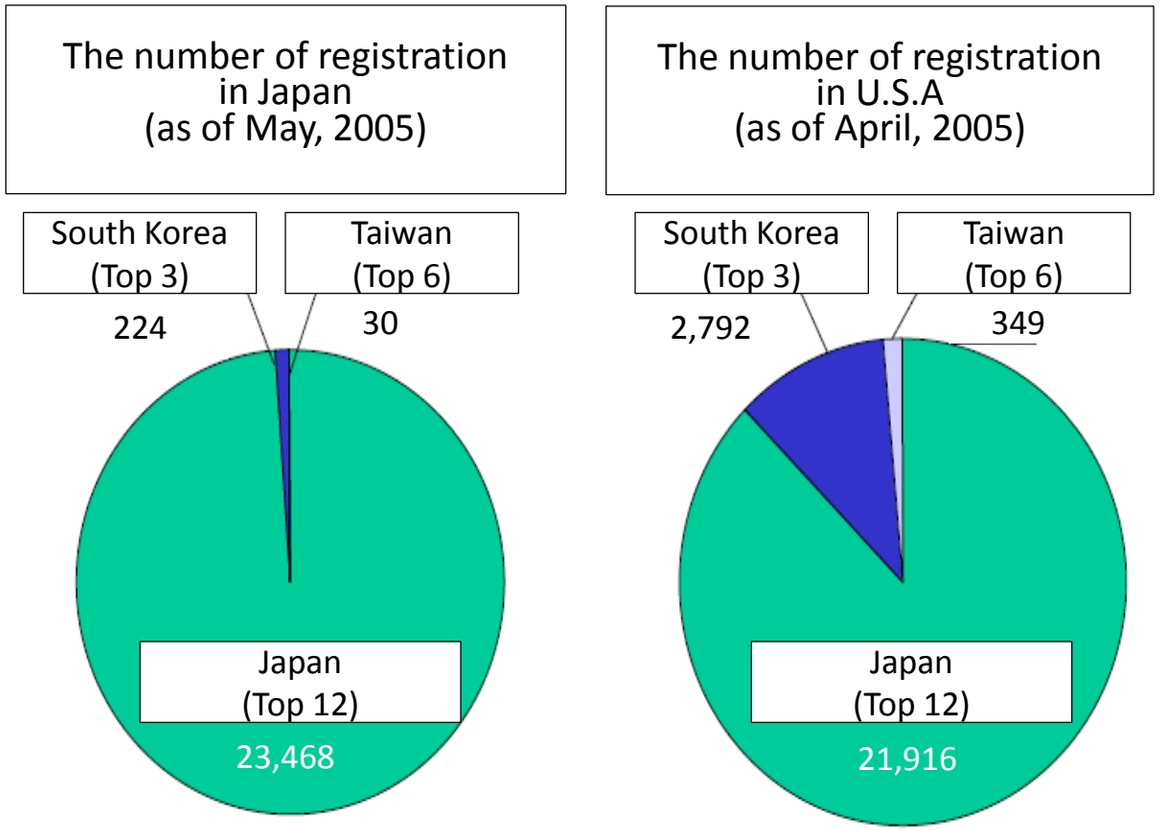
1. Basic Concept ① - Elemental technologies are no longer the key factor in the global market.

○Japan has great strengths on elemental technologies especially in the IT and electronics industries.

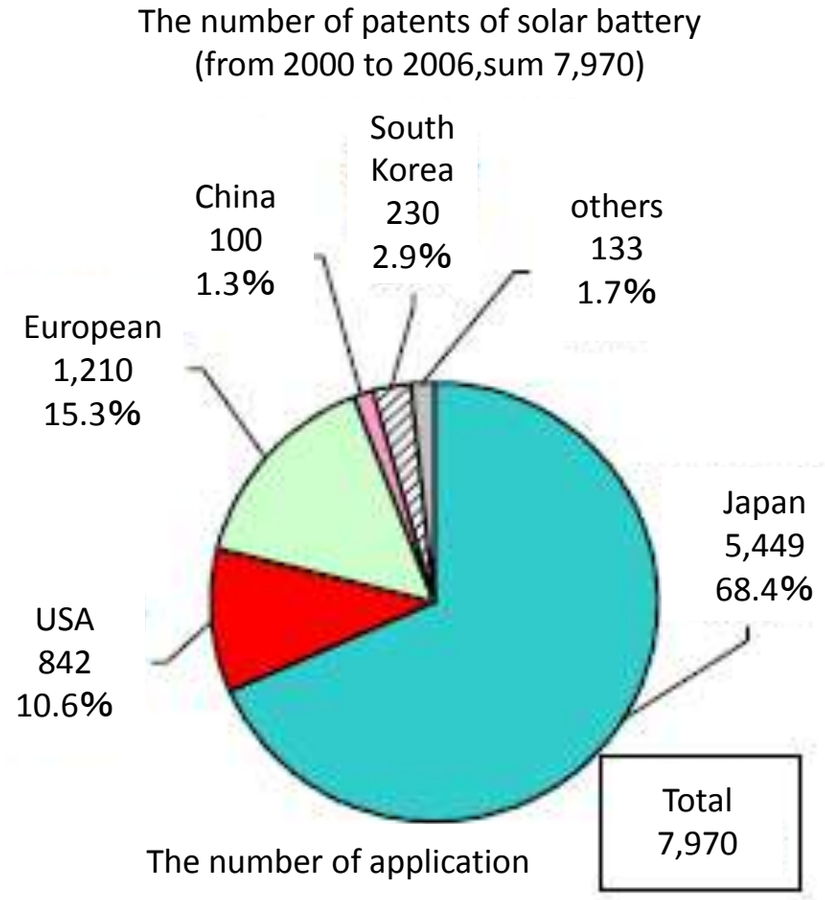
○ Nevertheless, products manufactured by Japanese companies utilizing such technologies almost certainly end up dropping its share at a breakneck pace soon after their release.

○ The period when Japanese companies can be competitive with their in-house technologies become shorter and shorter. Next generation technologies in the environmental and energy fields (e.g. rechargeable batteries) are going to be at risk of following same pattern in the near future.

Ratio of Japanese Industrial properties in global market
（Liquid-crystal）

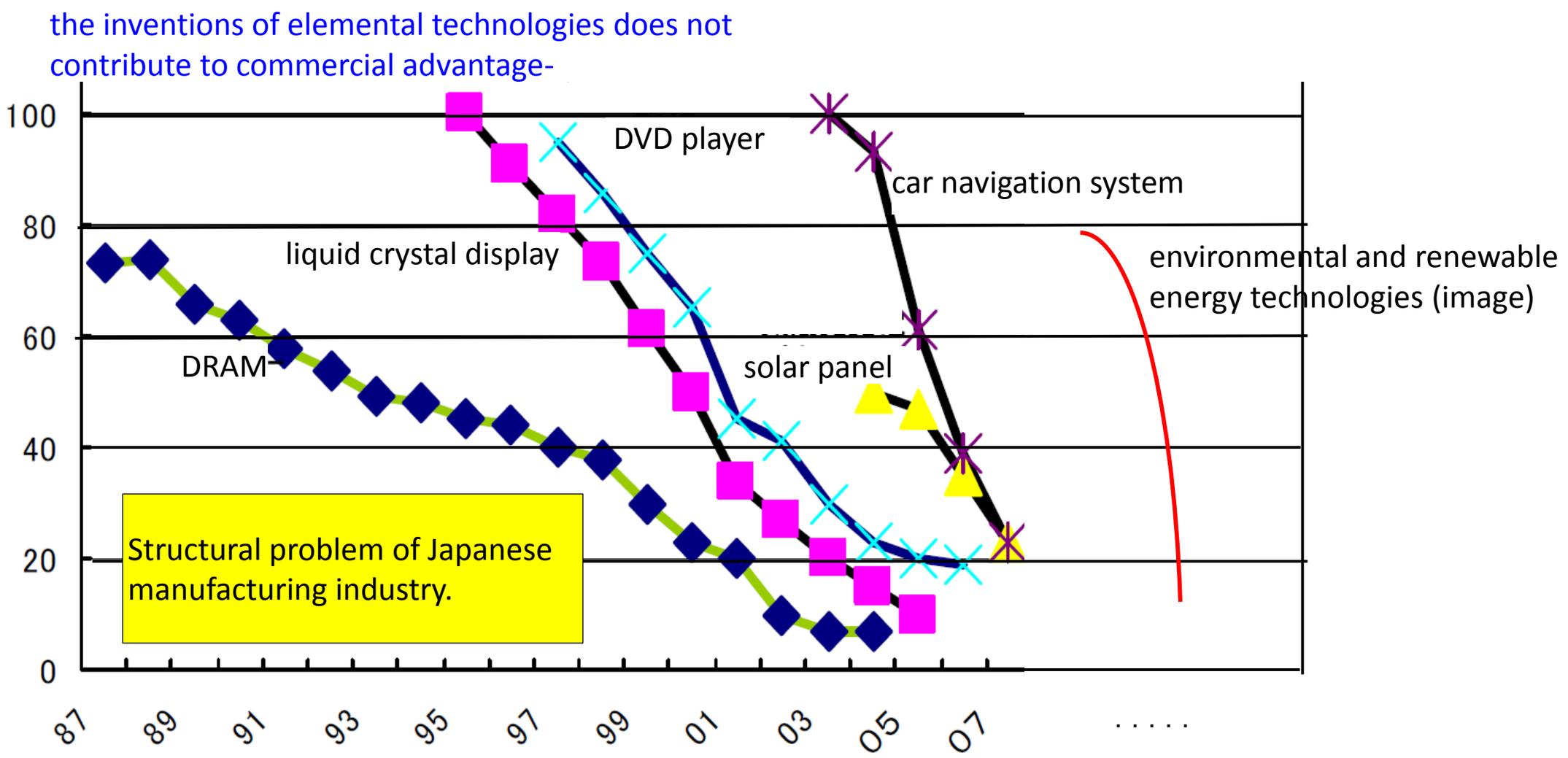


Patents of Japanese environmental technology



1. Basic Concept ① - Elemental technologies are no longer the key factor in the global market.

Japanese companies dramatically drop their share
at the stage of mass production.

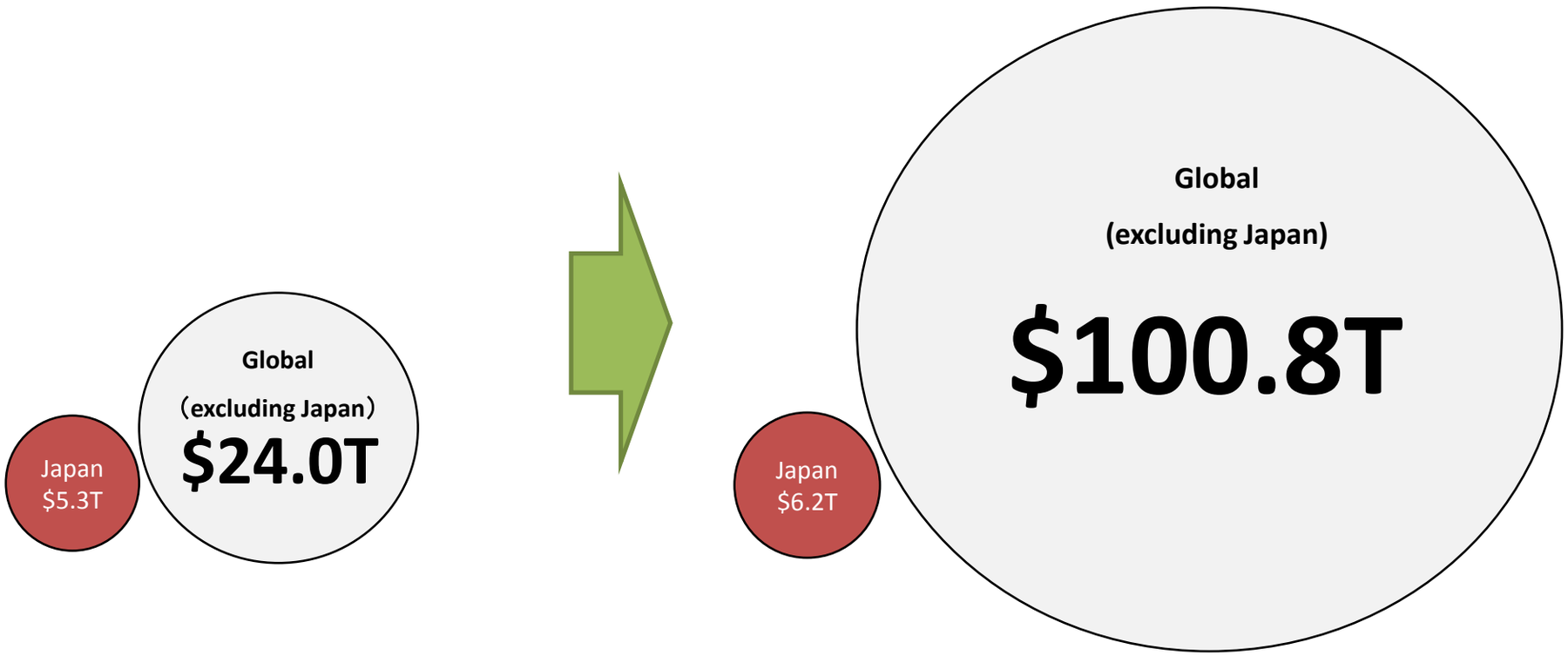


1. Basic Concept ② - Global First

○While the Japanese market made up 20% of the global market in 1995, Japan's share will drop to less than 6% in 2030.

○Based on the premise of this prospect, Japanese companies are required to start their business for global market from the start, not from Japan.

○ Global alliances will be one of the core strategies for Japanese companies to penetrate the global market from scratch.



Share 18% (1995)

Share 6% (2030)

Comparison between the size of Global GDP and its of Japanese GDP

1. Basic Concept ③ - Structural change through the progress toward an IOT society

○Phase 1: Digitization

A variety of analog information such as letters, voice and video can be dealt with as individual elements after converting into digital information

○Phase 2: Connected to the Network (IOC (Internet of computer) society)

Digital information is spontaneously shared all over the world at an extremely low rate through networks of a variety devices such as PCs, cellular phones, televisions and portable game machines.

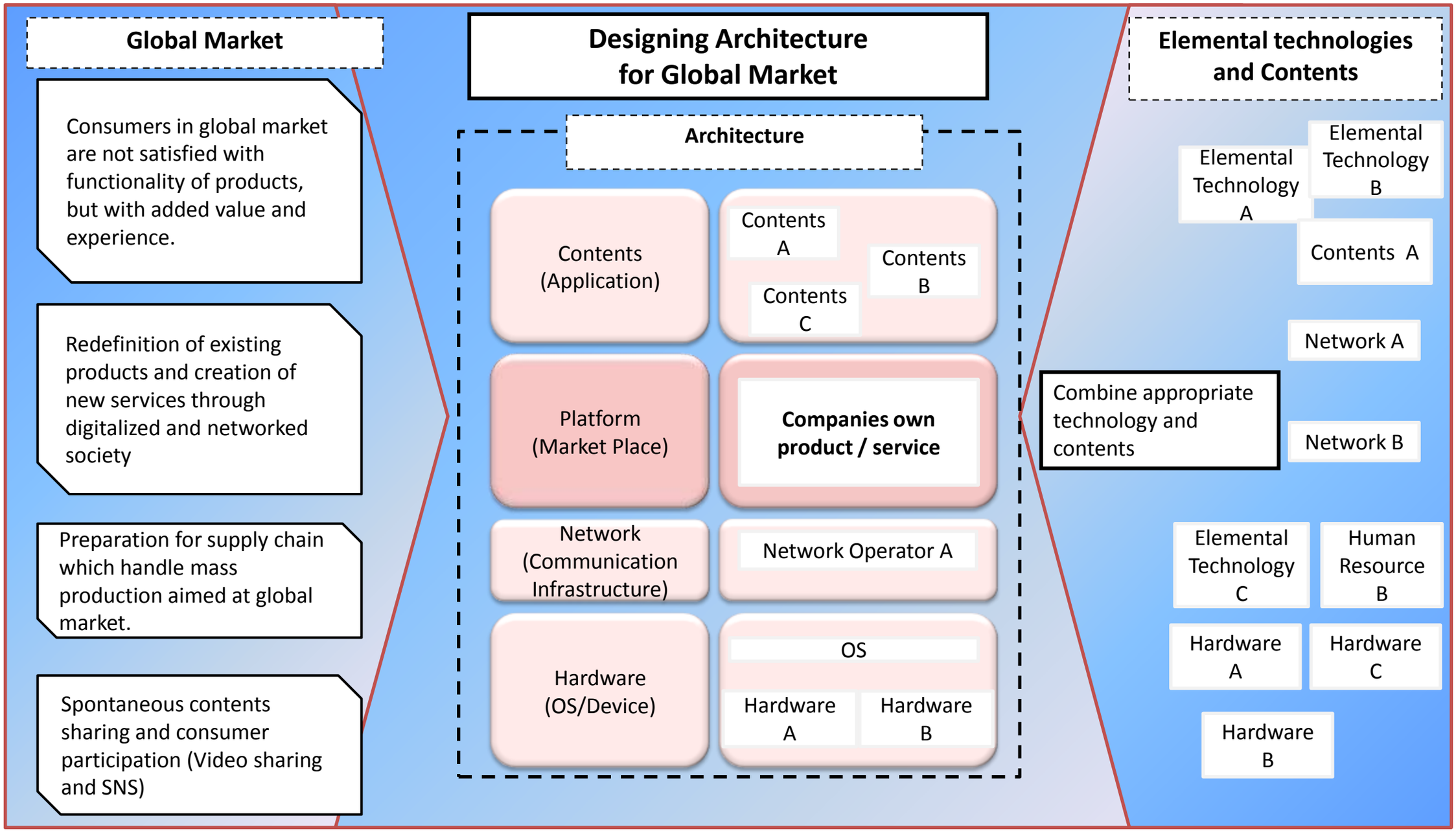
○Phase 3: IOT (Internet of things) Society

Digitization of physical information of traffic, urban space and human activity has started being accelerated through the expansion of smart phones and censor networks.

1. Basic Concept ④ - Designing architecture in the multilayer business structure.

○Under the IOT society, each elemental technology, content and service is supposed to be built into a network and positioned in a multilayer architectural structure.

○It is strategically significant to draw up architecture and design leading-edge platforms.



2. Action Plan for Key Areas - Basic Policy Direction

1. Launch of a “Smart Convergence Forum” and establishing the necessary business environment

○Launch of “Smart Convergence Forum” that industrial-government-other business areas complex concerned.
○Considering disclosure and sharing of data and regulatory reforms .

2. Support the design, development and overseas market cultivation of “Smart Convergence”

○Support for design, development and overseas market cultivation of “Smart Convergence” through industrial consortiums.

3. Supply of risk money and support for core operator development

○ Supply of risk money and support for core operator development by the Innovation network corporation of Japan (INCJ) etc.

4. Promoting strategic standardization

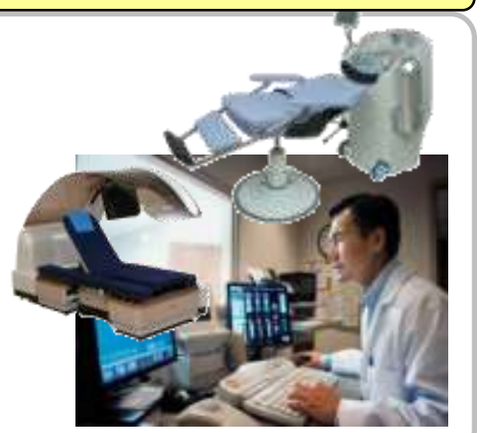
○ Designating standardization fields and support for strategic standardization on key areas.

2. Action Plan for Key Areas

Field1 : Acceleration of global smart community expansion

- ○ Accelerate introduction of smart meters, HEMS, BEMS and CEMS, etc.
- ○ Promote demand response(DR) system (including incentive compensation planning)
- ○ Establish business environment for regional energy management
- ○ Support core operator development
- ○ Implement an “infrastructure battery strategy” and promote overseas market cultivation of system sales

Field2: Smart Healthcare Industries



- ○ Establish institutions to accept foreign patients
- ○ Support overseas market cultivation and development projects through integration of medical services , equipment and systems.
- ○ Support development of medical equipment and systems capitalizing on the strength of core Japanese manufacturing and IT skills
- ○ Foster coordinators that can bundle medical and related social services and equipment.

Field3: Robot s to be integrated into society

- ○ Promote design and organize a future vision of social system using robots and promoting collaboration between companies in various fields
- ○ Support design, development and business expanding of the use of robots to be integrated into society
- ○ Promote consideration for the modality of a platform and OS, control software development for the future robot industry.

2. Action Plan for Key Areas

Field4 : Information Terminal for Automobiles and Traffic System

- ○ Design a social system for information disclosure and interoperability consolidating and utilizing information from the transportation system aimed at a smooth stream of information.
- ○ Promote formation of cross-industrial alliances to meet changes in the structure of competitiveness, such as smart cars and communication device- convergence
- ○ Develop a system which integrates energy systems that feature rechargeable batteries in automobile and transportation systems

Field5 : Smart Agricultural System

- ○ Promote industrial alliances for a future smart agricultural system
- ○ Support design, development and business expansion of a smart agricultural system
- ○ Support smart agricultural system sales

Field6 : Contents and Creative Business

- ○ Promote competition between shareholders and develop a business environment for the distribution of profits on digital books
- ○ Separate ownership from management of contents, and consider legislation for the creation of a cooperative organization to improve the profitability of intellectual property
- ○ Promote preparation of contents delivery in the era of cloud computing

3. Action Plan to solve Cross-Sectional Policy Challenges

1. Security Policy for Smart Society

- ○Launch a task force this summer to develop an action plan to establish “Control System” security.
- ○Develop technical standards for businesses to handle sophisticated cyber-attacks by next spring.
- ○Establish a rating and certification body for “Control System” security and confirm an international mutual recognition scheme.

2. Human Resources and Education for Smart Society

- ○ Launch an industry-government-academia research group to study comparatively advanced education systems in various countries’ IT sectors.
- ○Discover and support “Alpha Geek” to promote the convergence of the IT sector and other sectors.
- ○Strengthen integration of a high-education policy in the IT sector and innovation policy.

3. Global Business Development by International Alliances

- ○Back up strategy for developing the presence in the global market by using policy tools such us enhancing asset re-allocation to change the business structure.
- ○Promote Japanese businesses to start cross-border e-commerce by partnerships with global platforms.
- ○Develop a strategy to promote the “Cool Japan” brand globally.

4. Boost Newcomers under Smart Convergence

- ○Introduce policies to encourage new entrants into the new field created by Smart Convergence.
- ○Support global matching of research progress by public organizations and business opportunities.
- ○Introduce multiple solutions to stimulate Japanese venture markets (e.g. mobilization of human resources and improvement of domestic capital markets).

5. Strengthen technology development and the promotion of “Big Data” utilization

- ○Develop and demonstrate practically anonymous technology to utilize “Big Data” safely and verify it.
- ○Enhance rules on the utilization of anonymous information.
- ○Creation of a “Big Data” utilization platform.

4. Recovery from the great earthquake ①

1. Quick start of the related projects in the affected areas

〇Recovery of Tohoku and other affected areas through the “Smart Convergence”

- Support the projects related to Smart Convergence (e.g. Security Testbed, etc.).
- Enhance collaboration among universities, research institutions, leading IT & electronics companies, and local SMEs in affected areas. Consider international cooperation and linkage.
- Make Tohoku as a platform to foster local IT ventures

〇Digitization of medical services

- Examine the establishment of a disaster-resistant system of medical and health care services by digitizing health related information.

  e.g. detailed information about diagnosis and medical checkups which health insurance associations, municipalities, and medical institutions possess, as well as vital information measured at home.

〇Digitization of urgent contents services

- Support to establish a platform toward the maintenance of the electronic books market and examine the possibility of locating the bases of data management companies in the Tohoku area.

4. Recovery from the great earthquake ②

2. Support to Revitalize SMEs

〇Support SMEs and venture businesses by utilizing cloud computing services.

- Consider mechanisms to establish an infrastructure for corporate management information by using cloud computing and SaaS.

〇Support the expansion of sales channels by promoting cross border e-commerce.

- Promote continuous development of sales channels and business models when e-commerce operators sell products overseas.

〇Introduce a support system to review damage to the infrastructure.

- Support to simplify and improve the efficiency of infrastructure inspection and related facilities in widely devastated areas.

3. Effective use of Public data and Improvement of IT literacy

〇Joint efforts between government and the private sector to promote the effective use of public data

- By establishing a framework to make best of the ability of private sector, promote effective use of public data by standardization of how to provide information and formulating the common operational way (e.g. Net Action 2011).
- Promote efficient use of public data through naming a ”Government CIO”.

〇Improve IT literacy and information literacy in the affected areas

- Promote the building of a mechanism to help people in affected areas, including the elderly, to be able to use IT.