

# I. Introduction

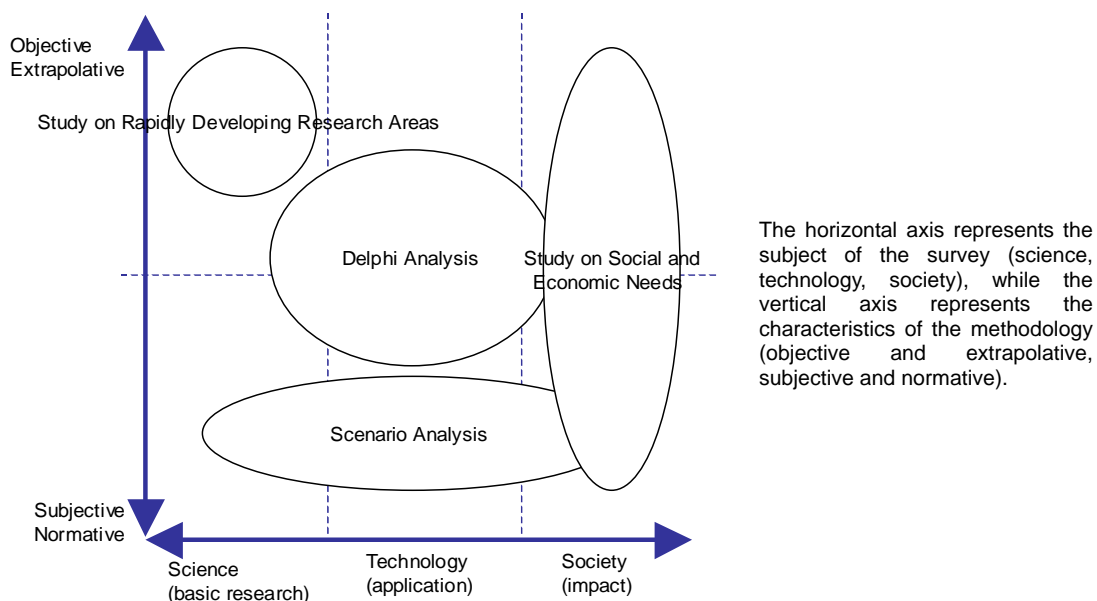
## 1.1. Positioning and goals

### (1) The aims of the Foresight Survey

In Japan, the Council for Science and Technology Policy has implemented the strategic prioritization of research and development funds as promotion strategies on prioritized areas and ranked projects under the Second Science and Technology Basic Plan. The more the need for prioritized and efficient allocation of budgets increases, the more rational bases for prioritization are required.

The "Science and Technology Foresight Survey" is intended to provide information useful in examining priorities for the next Science and Technology Basic Plan (expected to be the plan for 2006–2010, looking ahead to 2015). The Foresight Survey comprises four components. To the Delphi analysis performed in the past, this Survey added the Study on Social and Economic Needs (to think about the future society and its needs), the Study on Rapidly Developing Research Areas (to search for emerging areas through analysis of citation database), and the Scenario Analysis (to create progressive scenarios based on the views of experts with deep insight). The Survey is thus able to give a comprehensive view of the future of science and technology, from basic research to social impact, and from subjective and normative points of view to objective and extrapolative perspectives.

Figure 1-1: The positioning of each survey



### (2) Purpose and role of the Delphi analysis

The Delphi analysis centers on technology (application), while also including some aspects of science (basic research) and society (impact) in its subject matter. The subjective views of many experts are statistically processed in order to collect the distribution of expert opinion on such predictions. The period of prediction for the analysis (the future period looked at) is the 30 years from 2006 through 2035.

## 1.2. Implementation system

For the implementation of the analysis, thirteen field subcommittees\* were established under the Steering Committee, which has overall charge of the survey. The subcommittee members were frontline researchers and engineers. The subcommittees identified key areas and technologies in the relevant fields,

set questionnaire items, selected candidates to receive the questionnaires, and analyzed results.

\*In addition, a Needs Analysis subcommittee was established for the Study on Economic and Social Needs and a Scenario Analysis subcommittee was established for the Scenario Analysis.

### 1.3. Survey methods

#### (1) Survey fields

The thirteen fields below were surveyed. In light of the requirement to build comprehensive systems that enable technologies to meet social missions, the field of social technology was newly added. In addition, the industrial infrastructure field, covering industrial technology other than manufacturing, was added to expand the previous fields of management and distribution, and the marine and earth field and the space field were combined in the new frontier field. The services field was divided among the fields of information/communications, health/medical care/welfare, and social technology.

Survey fields: Information/communications; Electronics; Life science; Health/medical care/welfare; Agriculture/forestry/fisheries/foods; Frontier (space, marine and earth sciences); Energy/resources; Environment; Nanotechnology/ materials; Manufacturing; Industrial infrastructure; Social infrastructure; Social technology

#### (2) Survey areas and topics

##### 1) Areas

The analysis was predicated on a hierarchical structure comprising fields, areas, and topics. Areas are new as subjects for analysis.

Areas are positioned between fields and topics (individual technologies), and comprise multiple technologies and research. Each field was examined from the perspective of expectations of social and economic contributions, potential to generate new directions in science and technology, the possibility of Japanese leadership, and so on with about 5 to 10 areas comprising a total of 130 areas.

Figure 1-2: Relationships among fields, areas, and topics

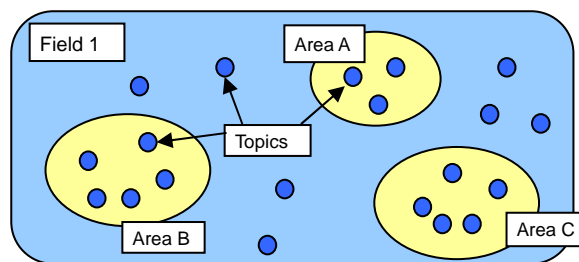


Table 1-1: The designated areas

Fields	No. of areas	No. of topics	Areas
Information/Communications	9	75	Very large scale information processing; High-productivity computing; Human support (intellectual support); Ultra-transparent communications (space sharing)/ human interface (muscular strength support); Information security; Information technology for developing social systems; New principles for information and telecommunications; Ubiquitous networking; Software technology for large-scale networks
Electronics	15	69	Integrated systems; Silicon electronics; Optical and photonic devices; Wireless electronics; Bioelectronics; Molecular and organic electronics; Storage; Displays; Energy conversion/storage devices; Digital home appliances; Ubiquitous electronics; Robot electronics; Car electronics; Network electronics; Security electronics

Fields	No. of areas	No. of topics	Areas
Life science	11	65	Basic research in drug development; Basic research for new medical technologies; Brain generation and growth; Higher-order brain functions; Understanding and treating brain conditions; Regenerative medicine; Monitoring and sensor technology for biological substances; Control of higher-order biological functions; Information biology; Environmental and ecological biology; Nanobiology
Health/Medical care/Welfare	8	80	Personalized medicine; Elucidation of biological defense mechanisms and therapeutic application; Recovery of biological functions focusing on QOL and support for it; Application of IT to medicine; Human-centered medicine and construction of healthcare support systems; Preventive medicine; Measures against emerging and reemerging infectious diseases; Medicine and welfare for an aging society
Agriculture/Forestry/Fisheries/Foods	5	46	Elucidation of the complex interaction between biodiversity and ecosystems; Biological solutions to environmental problems and achievement of a sustainable society; Development of production technology that harmonizes with ecosystems and improves the environment; Development of a food system for a safe, peaceful, long-lived, and healthy society and other new technologies for daily life; Elucidation of genome/proteome, and biological information signal transduction mechanisms and development of innovative production technology
Frontier	11	76	Planetary exploration technology; Earthlike life and extrasolar planetary exploration technology; Space and particle research; Basic technology for space transportation and manned space activity; Space utilization technology —basic satellite technology—; Technology for high precise observation of Earth environments and for prediction of change; Technology to explore, capture, and cultivate life under extreme environment; Deep Earth observation technology; Ocean and deep ocean floor observation research technology; Space, ocean, and Earth technology for a safe and secure society; Space, ocean, and Earth technology that drives science and technology innovation
Energy/Resources	10	51	Innovative nuclear power systems; Nuclear fusion energy; Hydrogen energy systems; Fuel cells; Decentralized energy systems; Renewable energy; Clean-coal technology; Efficient energy conversion and use; Resource assessment; Recycling system (including biomass and waste)
Environment	7	55	Global environment (focus on global warming); Urban environment; Focus on identification and mitigation of ecological effects (including soil and water); Environmental economic index; Lifestyle based on environment; Environmental disasters; Water resources
Nanotechnology/Materials	10	70	Nanomaterials modeling simulation; Nano measurement and analysis technology; Nano processing, molding, and manufacturing technology; Matter and materials origination, synthesis technology and process technology; New materials from nanolevel structure control; Nano devices and sensors; NEMS technology; Environment and energy materials; Nanobiology; Nanoscience for a safe and secure society
Manufacturing	9	59	Manufacturing technology utilizing advanced information technology; Manufacturing technology using virtual design; Manufacturing technology for high-value added products; Nano-machining/ micromachining technology; Recycling-oriented manufacturing technology with a low environmental load; Human and robot participation in manufacturing; Manufacturing technology in special environments; Advanced manufacturing technology for social infrastructure; Surface modification and interface control technology
Industrial infrastructure	10	59	Optimization of industrial infrastructure through regional dispersion and concentration; Knowledge management; Corporate decision-making, governance, and management; Public-sector governance and management; Risk management and finance; Human resources management (relationship among education, competition, and cooperation); Competition and cooperation in business; Higher productivity in service industries and the services sector; Environmental management; Art, culture, and entertainment that drive industry
Social infrastructure	14	97	Social infrastructure technology for non-densely populated areas; Improvement of structure performance; Revitalization, maintenance, and management of social infrastructure; Social infrastructure technology responsive to an aging society; Environmental technology in social infrastructure; Comprehensive water management technology; Environmental measures appropriate to architectural scale; Security technology as social infrastructure; Disaster prevention technology; Total management of social infrastructure that includes public involvement; New transport system technology; Traffic safety technology; Environmental management in the transport sector; Efficient and environmentally-conscious logistics systems technology
Social technology	11	56	Safety, security, and stability of day to day life; Urban safety, security, and stability Universal availability of services; Support for the elderly and the disabled; Social application of brain research; Technology for solving international problems; Technology that supports education and learning; Handing down and preserving culture and technology; Knowledge production system; Entertainment technology; Technology assessment

## 2) Topics

Topics are key technologies and research topics typical of individual areas. Some of them refer to social systems and lifestyles, which are not technologies but are likely to influence technological development or to be influenced by technology. Topics not included in areas are designated as non-area topics. Study resulted in a total of 858 topics, with several in each area. The following conditions were used to decide the topics. In the event that identical or similar areas or topics were designated in different fields, no adjustments were made, because it is likely that perspectives will vary accordingly.

- In principle, topics subject to analysis should have the potential to be realized by 2035, but when necessary, topics that may be realized in 2036 or later are included.
- Unless otherwise noted, the place of realization for each topic is the country or area where that is projected to occur first.
- Along with changes in questions regarding time of realization (two development stages, technological realization and social application, for each topic), in principle, descriptions of topics do not refer to technological development stages (e.g., elucidation, development, practical application, dissemination).

e.g.,     Effective technology to prevent cancer metastasis (a topic in the current survey)  
           Practical application of effective measures to prevent cancer metastasis (a topic in the previous survey)

## (3) Survey items

Regarding the areas and topics, questions such as the following were established. In addition, two general questions regarding the science and technology field as a whole and social change were also designated.

### 1) Questions regarding areas

#### ○ Impact

Evaluate the increased intellectual assets, the economic impacts, and the social impacts that will be brought about by the area over the next 10 years or so (the survey says "current") as will be examined by the next Science and Technology Basic Plan and over the 10 years beginning in 2016 (the survey says "the medium term"). For each impact, two detailed questions were established, with answers to be on a five-point scale of "Large," "Somewhat large," "Moderate," "Small," and "None."

<Increased intellectual assets>

Contribution of the relevant area itself to increased intellectual assets:

Possibility and potential that the relevant area itself will form a base for the generation of new knowledge, or that in the future it will generate new technology

Contribution to the development of other fields:

Potential to bring about propagation effects (creation of new fields, accelerated development of other fields, etc.) in other fields

<Economic impacts>

Contribution to the development of existing Japanese industry:

Potential to cause additional growth in existing Japanese industry, or to increase its competitiveness

Contribution to the creation of new industries or businesses:

Potential to generate new businesses and services that had not existed before, and to develop them into new industries

<Social impacts>

Contribution to safety and security:

Potential to maintain or increase safety and security for individuals or society as a whole

Contribution to improved social vitality and quality of life:

Potential to add vitality to society and bring about better lives

○ Japan's research and development level

Evaluate Japan's research and development level relative to USA, EU, and Asia (for the EU and Asia, the most advanced countries in those areas) today and five years ago. The evaluation scale is (Japan is) Leading, Somewhat leading, Even, Somewhat behind, Behind.

2) Questions regarding topics

○ Degree of importance to Japan

Use four-point scale of High: very important, Moderate: important, Low: somewhat important, None: not important (including unnecessary, should not be implemented).

○ Questions regarding technological realization (completion of a technological environment enabling the desired function)

Time of technological realization

(Choose one from 2006–2010, 2011–2015, 2016–2025, 2026–2035, 2036 or later, Will not be realized, Do not know.)

Countries at the leading edge

(Choose one from Japan, USA, EU, and Asia.)

Necessity of government involvement towards technological realization

(Choose one from High: strong involvement needed, Moderate: some involvement needed, Low: slight involvement needed, None: no involvement needed.)

Effective measures that should be taken by government towards technological realization

(Choose from the following measures (multiple choices permitted). However, do not answer if you selected "None" for "Necessity of government involvement towards realization.")

Human resources development: Training and retention of researchers, engineers, and research support personnel

Strengthened industry-academic-government and interdisciplinary collaboration: Greater fluidity of human resources, human exchange among industry, academia, and government, along with promotion of interdisciplinary cooperation including the humanities; promotion of joint projects, etc.

Development of R&D infrastructure: Development of large-scale joint facilities and equipment, database development, provision of standardized materials and genetic resources, etc.

Expansion of R&D funding: Expansion of R&D funding borne by government (including R&D subsidies to the private sector)

Internationalization of R&D activities: International joint research, international research exchanges, sending people to and sponsoring international research conferences

Relaxation or elimination of relevant regulations: Relaxation of relevant regulations, relaxation or elimination of approval and licensing systems

Tightened or new regulations: Strengthened protection for intellectual property rights, promotion of the dissemination of electric cars, etc., through environment taxes

Other

- Questions regarding social application (technology becomes possible to utilize in products, services, etc.)

Time of social application

(Choose one from 2006–2010, 2011–2015, 2016–2025, 2026–2035, 2036 or later, Will not be applied, Do not know.)

Necessity of government involvement towards social application

(Choose one from High: strong involvement needed, Moderate: some involvement needed, Low: slight involvement needed, None: no involvement needed.)

Effective measures that should be taken by government towards social application

(Choose from the following measures (multiple choices permitted). However, do not answer if you selected "None" for "Necessity of government involvement towards realization.")

Human resources development: Training and retention of researchers, engineers, and research support personnel

Strengthened industry-academic-government and interdisciplinary collaboration: Greater fluidity of human resources; human exchange among industry, academia, and government, along with promotion of interdisciplinary cooperation including the humanities; promotion of joint projects, etc.

Improvement of environment for business startups: Financial, tax, and other measures to support ventures and new businesses

Support through taxation, subsidies, and procurement: Support through tax benefits and subsidies, government procurement of products, etc.

Relaxation or elimination of relevant regulations: Relaxation of relevant regulations, relaxation or elimination of approval and licensing systems

Tightened or new regulations: Strengthened protection for intellectual property rights, promotion of the dissemination of electric cars, etc., through environment taxes

Other

### 3) General questions

- Regarding the development of Japanese science and technology fields (questions for all fields)

Looking ahead to the next 5 to 10 years, what field(s) should integrate and collaborate with the field regarding which you are responding (the respondent's field of expertise)? Looking at the 10 years after that (2016–2025), what field(s) has/have a high need for integration and collaboration?

Selections: information/communications; electronics; life science; health/medical care/welfare; agriculture/forestry/fisheries/foods; frontier; energy/resources; environment; nanotechnology/materials; manufacturing; industrial infrastructure; social infrastructure; social technology (Choose up to three.)

- Predict what society will be like 30 years from now

(Two or three themes relevant to the development of the field in question.)

### (4) Methodology

#### 1) Technique

As in the previous survey, we use the Delphi method. The method applies the same questionnaire to experts twice in order to create a convergence in their answers.

Note: Delphi method

The Delphi method repeats the same questionnaire with multiple people in order for opinions of respondents to converge. It differs significantly from conventional questionnaires in that the second

and subsequent questionnaires feed back previous responses to the respondents, enabling them to see the overall direction of opinions and to individually reevaluate question topics. Because some respondents may assent to the majority opinion, opinions converge. The name "Delphi" is taken from the location of the Temple of Apollo in ancient Greece, where the gods were said to visit the Oracle in order to have their futures told. The Rand Corporation of USA developed the method.

## 2) Premises of respondents and responses

Experts with deep knowledge of relevant fields are listed based on recommendations from subcommittee members. Conditions for recommendation are that the candidate be "a person with expert knowledge in the relevant field and engaged in or supervising research and development, or the equivalent." In addition, the following points are considered.

- Care is taken that the percentages of respondents in industry, academia, and government match those of each field.
- Care is taken to increase the number of relatively young respondents (those in their 30s and 40s) and the number of women.

Candidates selected through this process are then surveyed for willingness to participate, and the round 1 questionnaire is sent to those who agree. The round 2 questionnaire is sent to those who respond to the round 1 questionnaire.

Responses are predicated on there being no worldwide wars or catastrophes that destroy economic society during the next 30 years.

## 3) The questionnaires

In the Delphi analysis, the respondent group is decided by field, so results obtained from different populations can be aligned in order to make cross-field comparisons. In addition, there is a clear general trend for experts to evaluate their own fields highly. When analyzing the results, therefore, we must compare the responses of experts and non-experts and examine them for bias towards specialties.

This analysis therefore prepared two types of questionnaires, one to obtain responses from experts in a given field (Questionnaire A), and one to obtain responses from experts in other fields (Questionnaire B). Respondents answer Questionnaire A regarding areas and topics in their specialty fields, and Questionnaire B regarding areas in which they have some knowledge but that are outside their specialty fields. This enables comparisons between responses regarding areas from experts and non-experts in the field in question. Because the survey utilizing Questionnaire B is intended to identify the influence of specialization, the Delphi method is not used and it is taken only once. Questionnaire A is given twice, using the Delphi method, with the results of the second round analyzed as the final results. The following table shows the characteristics of the questionnaires and their respondents.

Table 1- 2: Types of questionnaires

Questionnaire	Questionnaire types	Respondents	Questions	Survey method
Questionnaire A	13 types (1 per field)	Specialists in the relevant field	Questions on areas in their specialty field and on topics	Delphi method (2 rounds)
Questionnaire B	1 type	All respondents	Questions on areas outside their specialty fields	1 round

## 4) Questionnaire execution

The questionnaire's execution can be summarized as follows.

- Round 1 questionnaire

Date: September-October 2004

Delivery: 4,219 sent, 2,659 returned (63 percent collection rate)

○ Round 2 questionnaire

Date: December 2004-January 2005

Delivery: 2,659 sent, 2,239 returned (84 percent collection rate)

Final respondents totaled 2,239, a 53 percent collection rate. Respondent affiliations were private sector corporation, 27 percent; university, 45 percent; independent administrative agency, 19 percent; group or other, 8 percent. Their age composition was 40 percent, the highest percentage, in their 50s; followed by 33 percent in their 40s. Five percent of respondents were female. (See Table 1-3.)

(5) Procedure of analysis

In the analysis, the following methods were used for indexing.

○ Questions regarding areas

Responses were indexed on a 10-point scale for both impacts and R&D level.

Impacts                      Calculated as (No. of "Large" responses x 10 + No. of "Somewhat large" responses x 7.5 + No. of "Moderate" responses x 5 + No. of "Small" responses x 2.5 + No. of "None" responses x 0) ÷ total responses on impacts (non-responses not included)

\*Regarding increased intellectual assets, economic impacts, and social impacts, when subdivided into two indexes, the larger was taken as the relevant impact.

Overall impact              Calculated as Overall impact index =  $\sqrt{\{(\text{index of increased intellectual assets})^2 + (\text{index of economic impacts})^2 + (\text{index of social impacts})^2\}}$

R&D level                      Calculated as (No. of "Leading" responses x 10 + No. of "Somewhat leading" responses x 7.5 + No. of "Even" responses x 5 + No. of "Somewhat behind" responses x 2.5 + No. of "Behind" responses x 0) ÷ total responses on level (non-responses not included)

○ Questions regarding topics

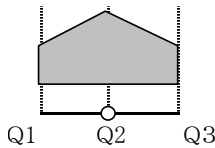
Regarding the degree of importance to Japan, responses were scored in the way used in the previous survey (100-point maximum) to enable comparison. The necessity of government involvement towards technological realization and the necessity of government involvement towards social application were indexed on 10-point scales, like the questions regarding areas.

Degree of importance: Calculated as (No. of "High" x 100 + no. of "Moderate" x 50 + no. of "Low" x 25 + no. of "None" x 0) ÷ no. of responses on importance (non-responses not included)

Necessity of government involvement: Calculated as (No. of "High" responses x 10 + No. of "Moderate" responses x 6.7 (10 x 2 ÷ 3) + No. of "Low" responses x 3.3 (10 ÷ 3) + No. of "None" responses x 0) ÷ total responses on necessity (non-responses not included)

Regarding countries currently at the leading edge, a ratio (%) is calculated with total responses (non-responses not included) as the population. For effective measures that should be taken by government towards technological realization and social application responses of either "High," "Moderate," or "Low" to the "Necessity of government involvement" question above are taken as valid, and a percentage (%) is calculated with valid responses as the population.

Regarding times of technological realization and social application, the earliest and latest quarters of the answers were discarded and the half in between was used to obtain a value. The center half (Q1–Q3) is used as the range of answers and the median (Q2) is used as the representative value for achievement.



With responses on forecast time of realization/application arranged from earliest to latest,  
 Q1: quarter point of forecast time of realization/application  
 Q2: halfway point of forecast time of realization/application  
 Q3: three-quarter point of forecast time of realization/application

For questionnaire results regarding forecast time of realization/application, all decimals are discarded to round to whole numbers (years). For degree of importance and selection percentage, decimals were rounded to the nearest whole number. Indexes other than degree of importance were rounded to the first decimal.

The following abbreviations were used for survey item names. Numbers in front of field, area, and topic names signify field, area, and topic numbers. Field and areas names are abbreviated as necessary in charts. Longer topics are abbreviated by deleting those parts in parentheses, etc.

Survey items, etc.	Abbreviations
Increased intellectual assets	Intellectual assets (or, "Intellectual")
Contribution of the relevant area itself to increased intellectual assets	Relevant area
Contribution to the development of other fields	Development of other fields
Economic impacts	Economic
Contribution to the development of existing Japanese industry	Development of existing industry
Contribution to the creation of new industries or businesses	Creation of new industries
Social impacts	Social
Contribution to safety and security	Safety and security
Contribution to improved social vitality and quality of life	Social vitality
Degree of importance to Japan	Degree of importance
Effective measures that should be taken by government	Effective Measures
Human resources development	Human resources (or, "HR")
Strengthened industry-academia-government and interdisciplinary collaboration	Strengthened collaboration (or, "Collaboration")
Development of R&D infrastructure	Developed Infrastructure (or, "Infrastructure")
Expansion of R&D funding	Expanded funding (or, "Funding")
Internationalization of R&D activities	Internationalization
Relaxation or elimination of relevant regulations	Relaxed regulation (or, "Relaxed reg.")
Tightened or new regulations	Tightened regulations (or, "Tightened reg.")
Improvement of environment for business startups	Business startup environment (or, "Business startups")
Support through taxation, subsidies, and procurement	Taxation/subsidies/procurement (or, "Procurement")
Other	(Same as on the left)
Round 1 questionnaire	R1
Round 2 questionnaire	R2

Table 1-3: Questionnaire collection status and characteristics of respondents

Field	No. of topics	Collection status						Characteristics (Round 2 questionnaire, unit: %)																		
		R1 sent	R1 collected	Collection rate	R2 sent	R2 collected	Collection rate	Gender			Age						Affiliation					Type of work				
								Male	Female	No response	20s	30s	40s	50s	60s	70 and older	No response	Company	University	Independent administrative	Other Organization	Other	No response	Engaged in R&D	Other	No response
01 Information/communications	75	265	168	63%	168	144	86%	96%	2%	2%	0%	8%	36%	40%	10%	5%	0%	47%	40%	8%	1%	5%	0%	81%	19%	0%
02 Electronics	69	292	187	64%	187	159	85%	97%	1%	1%	0%	6%	37%	46%	9%	3%	0%	56%	33%	8%	2%	1%	0%	86%	14%	0%
03 Life science	65	431	278	65%	278	226	81%	90%	8%	1%	0%	15%	41%	33%	8%	2%	0%	15%	60%	20%	2%	3%	0%	89%	10%	1%
04 Health/medical care/welfare	80	306	152	50%	152	119	78%	81%	15%	4%	0%	2%	24%	55%	18%	0%	1%	1%	85%	4%	3%	7%	1%	44%	55%	1%
05 Agriculture/forestry/fisheries/foods	46	391	294	75%	294	253	86%	89%	9%	2%	0%	12%	39%	34%	12%	2%	0%	8%	32%	49%	4%	6%	0%	81%	18%	1%
06 Frontier	76	415	296	71%	296	250	84%	95%	5%	0%	0%	13%	31%	40%	12%	4%	0%	12%	42%	37%	3%	5%	1%	85%	15%	0%
07 Energy/resources	51	313	229	73%	229	202	88%	98%	0%	1%	0%	9%	32%	44%	13%	2%	0%	43%	30%	13%	9%	4%	0%	76%	24%	0%
08 Environment	55	361	213	59%	213	184	86%	93%	6%	1%	1%	9%	26%	45%	16%	4%	0%	23%	44%	20%	8%	5%	1%	76%	24%	0%
09 Nanotechnology/materials	70	366	214	58%	214	179	84%	95%	1%	4%	0%	11%	39%	35%	15%	1%	0%	32%	51%	15%	1%	2%	0%	89%	11%	0%
10 Manufacturing	59	255	186	73%	186	163	88%	99%	1%	1%	0%	6%	30%	48%	16%	0%	0%	53%	39%	4%	2%	2%	0%	74%	26%	0%
11 Industrial infrastructure	59	210	108	51%	108	88	81%	93%	6%	1%	0%	17%	35%	26%	16%	6%	0%	35%	53%	0%	2%	8%	1%	57%	42%	1%
12 Social infrastructure	97	331	188	57%	188	155	82%	94%	5%	1%	1%	12%	29%	41%	15%	3%	0%	23%	54%	14%	4%	4%	1%	81%	19%	0%
13 Social technology	56	283	146	52%	146	117	80%	94%	4%	2%	0%	17%	32%	39%	9%	3%	0%	21%	50%	16%	6%	5%	1%	72%	28%	0%
Total	858	4219	2659	63%	2659	2239	84%	94%	5%	2%	0%	11%	33%	40%	13%	3%	0%	27%	45%	19%	4%	4%	0%	78%	21%	0%
Total from previous (7th) survey	1065	4448	3813	86%	3809	3106	82%	97%	3%	1%	1%	9%	31%	44%	14%	2%	0%	31%	42%	14%	10%	3%	0%	79%	21%	0%