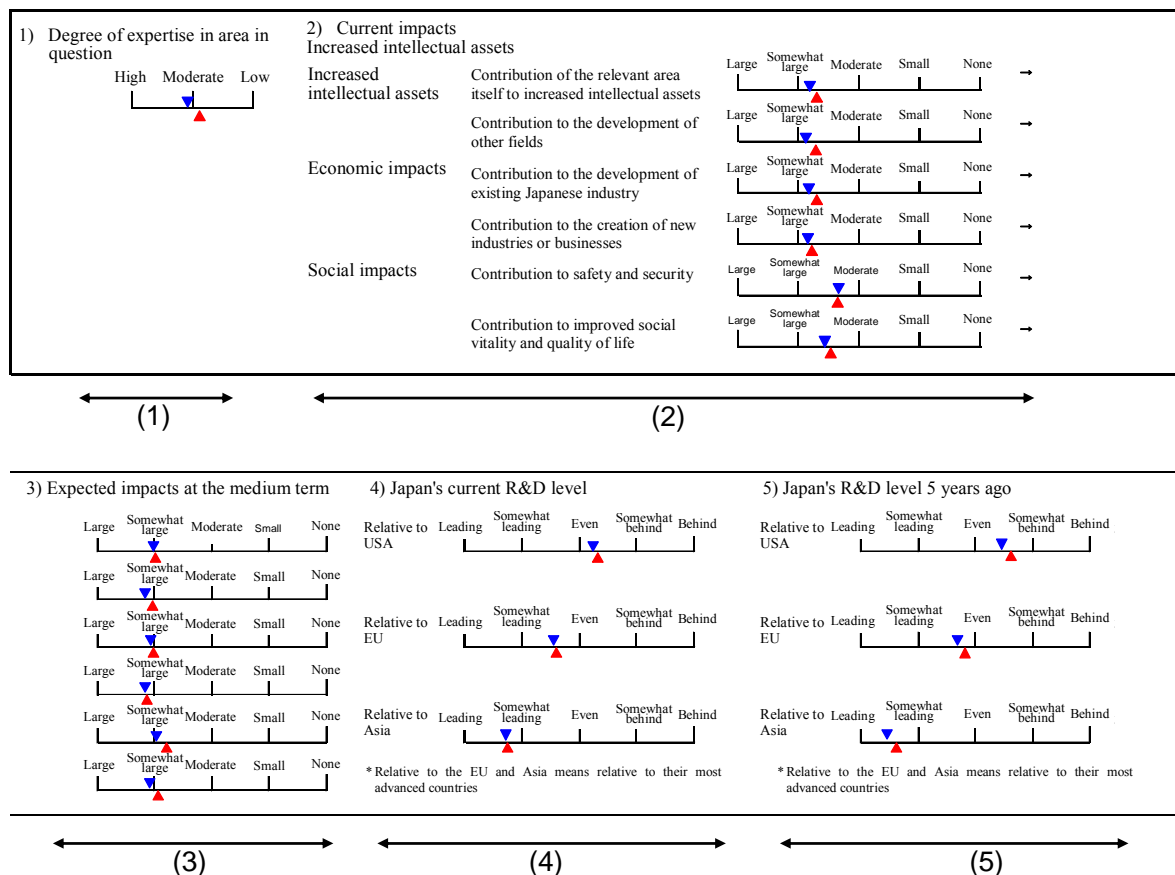


III. Particulars

[How to read the survey results]

The following chapters discuss results by field. The survey sheets at the end of each section can be read as follows.

○ Questions regarding areas



In the table, ▼ represents the results of the first questionnaire, and ▲ the results of the second. Details of the question categories and index calculation methods are as described in sections 1.3.3 and 1.3.5 above.

(1) Degree of expertise in area in question

The marks indicate average values calculated from the percentages responding "High," "Moderate," and "Low." Respondents select their "degree of expertise" from one of the following.

- High : I possess specialized knowledge in the area because I am currently engaged in research or work in the area (may include survey research based on documents).
- Moderate : I possess some specialized knowledge in the area because I have engaged in research or work in the area in the past or because I engage in research or work in a neighboring field.
- Low : I have read specialist books and papers and/or listened to specialists in the relevant area, etc.
- None : I have no specialized knowledge of the area.

(2) Current impacts

(3) Expected impacts at the medium term

The marks indicate average values calculated from the percentages chosen from the range "Large" to "None."

(4) Japan's current R&D level

(5) Japan's R&D level 5 years ago

The marks relative to the USA, the EU, and Asia indicate average values calculated from the percentages chosen from the range "(Japan is) Leading" to "(Japan is) Behind."

○ Questions regarding individual topics

No	Topic	Questionnaire	Respondents (persons)				Degree of expertise					Importance to Japan					Time of technological realization				
			High	Moderate	Low	None	Index	High	Moderate	Low	None	Already realized	2006-2010	2011-2015	2016-2025	2026-2035	2036-	Will not be realized	Do not know		
1	A search system that satisfies advanced access needs, such as one whereby a person who is watching a video and wants to search for relevant video information, can output the most appropriate results by collecting through sensors information on the searcher such as the interest, skills, and search context	1	140	19	38	43	-	63	32	54	14	0								1	2
		2	130	11	35	54	-	54	14	73	13	0								0	1
		E	14	100	0	0	-	69	47	38	15	0								0	0

(1)

(2)

(3)

(4)

(5)

(6)

Countries at the leading edge	Regarding technological realization										Time of social application				Regarding social application																				
	Necessity of gov't involvement				Effective measures that should be taken by gov't						Necessity of gov't involvement				Effective measures that should be taken by gov't																				
Japan	USA	EU	Asia	Other	High	Moderate	Low	None	Human resources development	Strengthened industry-academic-government and interdisciplinary collaboration	Development of R&D infrastructure	Expansion of R&D funding	Internationalization of R&D activities	Relaxation or elimination of relevant regulations	Tightened or new regulations	Other	2006-2010	2011-2015	2016-2025	2026-2035	2036-	Will not be applied	Do not know	High	Moderate	Low	None	Human resources development	Strengthened industry-academic-government and interdisciplinary collaboration	Improvement of environment for business startups	Support through taxation, subsidies, and procurement	Relaxation or elimination of relevant regulations	Tightened or new regulations	Other	
24	74	1	0	1	5	35	36	24	33	34	29	51	11	21	2	2							1	2	4	28	44	24	18	30	28	29	37	12	2
8	92	0	0	0	0	31	52	17	37	29	16	64	4	14	0	0							1	1	1	13	67	19	13	39	22	27	45	8	0
29	71	0	0	0	0	36	43	21	45	27	9	64	9	18	0	0							0	0	7	7	50	36	11	22	11	67	67	11	0

(7)

(8)

(9)

(10)

(11)

(12)

(1) Topic column

Description of the topic being surveyed

(2) Questionnaire category

This shows the results of questionnaire categories "1," "2," and "experts" as follows.

- 1 : Results of Round 1 questionnaire (those responding "High," "Moderate," or "Low" on degree of expertise)
- 2 : Results of Round 2 questionnaire (those responding "High," "Moderate," or "Low" on degree of expertise)
- E : Results of Round 2 questionnaire for those responding "High" on degree of expertise

(3) Number of respondents

Numbers for questionnaire categories "1" and "2" show the total of those answering "High," "Moderate," or "Low" on degree of expertise. (Those answering "None" are instructed not to answer subsequent questions and thus are not included.) The average collection rate for the Round 2 questionnaire was 84 percent, so the numbers for questionnaire category "2" respondents are lower than or equal to those for questionnaire "1."

The number of responses for questionnaire category "Experts" shows the number of respondents to the Round 2 questionnaire with a "High" degree of expertise.

(4) Degree of expertise

Degree of expertise is the ratio, expressed as percentages, of respondents in (3) choosing "High," "Moderate," and "Low" as their degree of expertise. Respondents selected one of the following as their degree of expertise.

- High : I possess specialized knowledge in the topic because I am currently engaged in research or work in the topic (may include survey research based on documents).
- Moderate : I possess some specialized knowledge in the topic because I have engaged in research or work in the topic in the past or because I engage in research or work in a neighboring field.
- Low : I have read specialist books and papers and/or listened to specialists in the relevant topic, etc.
- None : I have no specialized knowledge of the topic.

Those selecting "None" did not need to answer the remaining questions. However, we requested that those without specialist knowledge but with strong interest in a topic select "Low" and respond to the questions that followed.

(5) Degree of importance to Japan

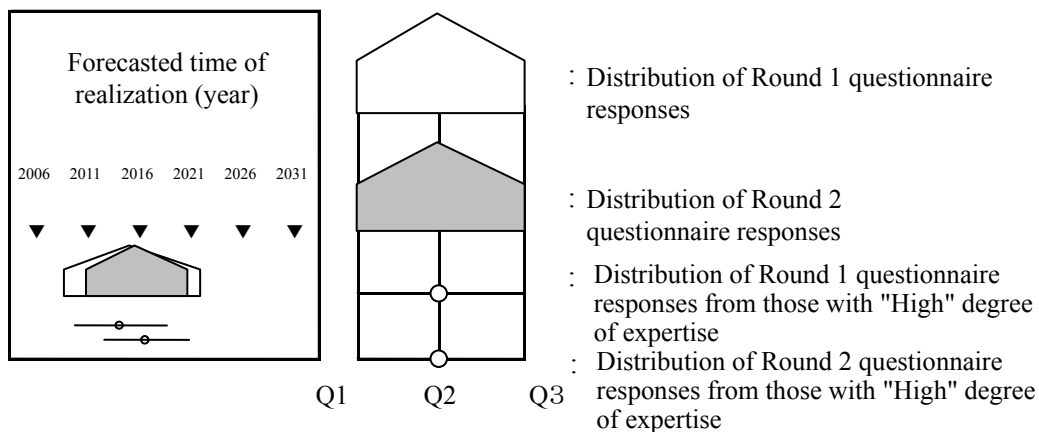
This shows as percentages the ratios of those selecting "High," "Moderate," and "Low" for the topic's degree of importance to Japan. The index was calculated as follows, with the cases of all respondents choosing "High" being 100 and all respondents choosing "None" being 0.

$$\text{Degree of importance index} = (\text{No. of "High"} \times 100 + \text{no. of "Moderate"} \times 50 + \text{no. of "Low"} \times 25 + \text{no. of "None"} \times 0) \div \text{no. of responses on importance}$$

(6) Time of technological realization

(10) Time of social application

This shows the distribution of forecasted times. The following method is used to calculate it from responses selecting one of the times.



<How to read forecasted times of technological realization and social application>

- Q1 : With responses on times of realization/application in order from the earliest, the first one-fourth of all answers
- Q2 : The median point of those answers
- Q3 : The three-quarter point of those answers

The width of the pentagon (the distance from Q1 to Q3) represents the middle one-half of responses on time of realization, with the first and last fourths removed. A narrow pentagon indicates a strong consensus among respondents.

In addition, when times of realization are used in timelines and so on, Q2 is the value used. The ratio responding "Will not be realized," "Will not be applied," and "Do not know" are expressed as percentages of all responses.

(7) Countries currently at the leading edge

Regarding the topic, the ratios of respondents selecting from among Japan, the USA, the EU, Asia, and Other as the country on the leading edge, as percentages of all responses to the question.

(8) Necessity of government involvement towards technological realization

(11) Necessity of government involvement towards social application

Regarding the necessity of government involvement towards technological realization or social application, the ratios of those selecting "High," "Moderate," "Low," and "None" as a percentage of all responses to the question.

(9) Effective measures that should be taken by government in Japan towards technological realization

(12) Effective measures that should be taken by government in Japan towards social application

Of those choosing "High," "Moderate," or "Low" for (8) or (11), the ratios of those selecting effective measures that should be taken by government towards the topic's technological realization or social application, as a percentage of all those who answered "High," "Moderate," or "Low" for (8) or (11). Multiple responses are permissible.