

**Questionnaires (translated)**

**Confidential**

Fundamental Statistics

**2020 Survey of Research and Development**

This survey is conducted under the auspices of the Statistics Act. This Act ensures confidentiality; you are therefore requested to furnish valid information.

**Questionnaire A-I (for business enterprises)**

**As of March 31st, 2020**

Statistics Bureau  
Ministry of Internal Affairs and Communications

Location and name of the business enterprise
[*] Enter the Corporate Number (13 digits)

Person representing the business enterprise	(Title) (Name)
Person responding to the questionnaire	(Section name) (Name)
Telephone	

- Please refer to the instruction when you fill in the questionnaire.
- Unit of this survey is business enterprise. Please report information of business enterprise, even if your business enterprise adopts consolidated accounts.
- Even if your business enterprise is not conducting R&D activities at all, you are kindly asked to answer the questions on pages 1 through 3 (i.e., from question [1] (present status of the business enterprise) through question [3] (yes/no of R&D activities)). If your company is conducting R&D activities (including the case of paying R&D expenses to outside), also answer question [4] (persons employed in R&D) on Page 3, and the rest of the questions through Page 8.
- Give information as of March 31st, 2020 about employees, and for the year ending on the latest settling day prior to March 31st, 2020 about financial status.
- Please return this questionnaire to the Statistics Bureau no later than July 15th.

[1] Fill in the present status of the business enterprise.

Description of business (2019 fiscal year)	Products or type of business (in decreasing order of sales)		
001	002	003	004

Total number of persons employed (as of March 31st)
005 (persons)

Capital (as of March 31st)
006 (million yen)

Total sales (2019 fiscal year)
007 (million yen)

[2] Yes or no of technology balance of payments (Fill in the circle for 'Yes' or 'No').

- "Technology balance of payments" means exchange of technology with abroad in relation to or in the form of patents, know-how and technical guidance.

008	Yes <input type="radio"/>	No <input type="radio"/>	If 'Yes', answer the following question.
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Technology exports	Country or territory of destination or origin	Amount (10 thousand yen)	Affiliated companies
	009 Total	010	011

Technology imports	Country or territory of destination or origin	Amount (10 thousand yen)	Affiliated companies
	012 Total	013	014

[3] Yes/no of R&D activities

**Research and Development**

- In the case of companies: R&D refers to systematic studies and creative efforts in science and technology which are undertaken for the acquisition of new knowledge of materials, functions, natural phenomena, etc., and for the new application of the storage of knowledge.
- In the case of R&D activities at companies, development and technical improvements on the product or production process are also included in the category of R&D.

015  
(Fill in the circle for the appropriate choice below)

1. Intramural R&D .....  → to [4]~[12]  
(Even if your company is not conducting R&D, if you have employees who are conducting R&D outside, include such employees. In this case, answer the questions from [7] through [12] on pages 5 and the rest.)

2. Extramural R&D only.....  → to [11], [12]

3. Not conducting R&D.....  →End of the questionnaire



- Fill in research laboratories, research divisions, sections, etc., of the company.

[4] Fill in number of persons employed in R&D (as of March 31st)

- Include transferees, etc., from outside and who are engaged in R&D at the company.

	Head-counts*5		Ratio of persons engaged in R&D*5 (persons)
	(persons)	Female	
Total (017, 020~022) (024, 027~029)	016	023	—
Researchers*1	017	024	—
	Persons solely engaged in R&D	018	025
	Persons partly engaged in R&D	019	026
Assistant research workers*2	020	027	031
Technicians*3	021	028	032
Clerical and other supporting personnel*4	022	029	033
Researchers who hold a Ph.D.	034	035	

\*1. **Researchers:** Persons who hold a university degree (or persons who have equivalent or greater knowledge of specialty), who are engaged in research activities of their own chosen subject.

"Persons solely engaged in R&D" mean those engaged in R&D activities all the time.

"Persons partly engaged in R&D" mean those engaged in R&D activities, but not all the time.

\*2. **Assistant research workers:** Persons who assist researchers and who are engaged in research activities under their direction.

\*3. **Technicians:** Persons, other than researchers and assistant research workers, who are engaged in technical services related to research activities under the guidance and supervision of researchers and assistant research workers.

\*4. **Clerical and other supporting personnel:** Persons other than the above but who are engaged in clerical work, accounting, etc., related to the research activities as defined in this Questionnaire. As for the persons engaged in the administration of such activities, those having research experiences are categorized as "researchers" (as defined in \*1), and those not having research experiences, as "clerical and other supporting personnel" (i.e., this category).

\*5. For "Head-counts", enter the number of persons engaged in R&D. For "Ratio of persons engaged in R&D", enter the figure obtained by multiplying "Head-counts" by the hourly ratio of those who engaged in R&D.

- [5] Enter the number of researchers who joined or left the business enterprise
- Cover the period from April 1 of last year to March 31 of this year.
  - "The number of researchers who joined the business enterprise" means "researchers" as defined in question [4] (persons employed in R&D) who joined from outside the business enterprise.
  - Enter the number of newly hired researchers who were assigned to a department which conducts research on natural sciences and engineering, according to the contents of their research.
  - Enter the number of researchers who joined from outside your company by their previous job according to the table of "classification of organizations" provided in the instruction
  - "The number of researchers who left the business enterprise" means "researchers" as defined in question [4] and who left the business enterprise.
  - Include transferees.

	Total (persons)	Female (persons)
Newly hired	036	054
Natural sciences and engineering	037	055
Physical science	038	056
Engineering and technology	039	057
Agricultural science	040	058
Medical sciences	041	059
Medical science	042	060
Dentistry	043	061
Pharmacy	044	062
Joined from:	045	063
Other companies	046	—
Affiliated companies	047	—
Non-profit institutions	048	—
Public organizations	049	—
Universities and colleges	050	—
Others	051	—
Number of researchers who left the business enterprise	052	064
Affiliated companies	053	—
Newly hired researchers who hold a Ph.D.	065	067
Researchers who joined from outside and hold a Ph.D.	066	068

- [6] Fill in the number of researchers by specialty (as of March 31st)
- As for the breakdown by field of specialty, write the number of "researchers" as defined in question [4] (persons employed in R&D, boxes 017 and 024) by field of specialty.

		Total (070~089) (091~110)	Total (persons)	Female (persons)
Natural sciences and engineering	Physical science	Mathematics and physics	070	091
		Information science	071	092
		Chemistry	072	093
		Biology	073	094
		Geology	074	095
		Others	075	096
		Engineering and technology	Machinery, ship engineering and aeronautics	076
	Electricity and communications		077	098
	Civil engineering and architecture		078	099
	Material		079	100
	Textile technology		080	101
	Agricultural science	Others	081	102
		Agricultural and forestry	082	103
		Veterinary science and animal husbandry	083	104
		Fishery	084	105
	Medical sciences	Others	085	106
		Medical science and dentistry	086	107
		Pharmacy	087	108
		Others	088	109
	Social sciences and humanities		089	110

As for research expenses, even if an expense is not booked as research expense, enter such expenses separately from the booked research expenses.  
Incomes and expenditures in kind: include the relevant expenses as R&D expenses in market price.

[7] Enter the intramural expenditure on R&D.

- Enter expenditures on R&D used in the company during the one year period, including those financed by outside funds. If it is difficult to calculate the R&D expenses by dividing them into those spent by the R&D and other divisions, enter them separately.

Total (112~114, 118,120,121)	(10 thousand yen)
	111
Labour costs*1	112
Materials*2	113
Expenditure on tangible fixed assets*3	114
Land, buildings, etc.	115
Machinery, utensils, equipment, etc.	116
Other tangible fixed assets	117
Expenditure on intangible fixed assets*4	118
Software	119
Lease fees*5	120
Other expenses*6	121

\*1.**Labour costs:** The following expenses that became necessary for R&D purposes and paid to persons engaged in R&D during the one year period: the total amount of salaries, etc. (basic salaries, allowances, bonuses, etc., paid regularly or as extras), retirement allowances, social insurance premiums paid on behalf of the insured, and others. The "salaries, etc." are before subtracting the income tax, local taxes, insurance premiums, etc. That is, it is not "take-home pay".

If employees are working extramurally, also include their salaries, etc.

\*2.**Materials:** Expenses on main raw materials, processed materials, auxiliary materials, parts and so on needed for R&D.

\*3.**Expenditure on tangible fixed assets:** "Tangible fixed assets" here mean all such assets required for R&D.

- **Land, buildings, etc.:** Land, buildings, etc., including ancillary structures, construction, ships, aircraft

- **Machinery, utensils, equipment, etc.:** Machinery, equipments and fixtures which are durable for one year or more and valued at 100,000 yen or more.

- **Other tangible fixed assets:** Suspense account of construction, animals and plants which are treated as fixed assets.

\*4 **Expenditure on intangible fixed assets:** "Intangible fixed assets" here mean all such assets required for R&D.

- **Software:** Within expenditure on intangible fixed assets, the amount paid for software which is used for one year or more and purchased at 100,000 yen or more.

\*5.**Lease fees:** The amount paid based on lease contracts for R&D purposes, but excluding land and buildings rent, short-term leases, charters, etc.

\*6.**Other expenses:** Expenses for books and other publications, electricity, fuel and water, expendables and supplies, etc.

\*7.**Depreciation of tangible fixed assets:** Depreciation of tangible fixed assets used for R&D purposes, such as buildings, structures, ships, machinery and vehicles.

Depreciation of tangible fixed assets*7	122
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[8] Enter the total R&D expenditures by type of R&D in the fields of physical sciences, engineering and technology, agricultural sciences, and medical sciences.

- Of the "Total" in question [7] (intramural expenditure on R&D), categorize and enter the R&D expenditures related to the fields of natural sciences and engineering namely physical sciences, engineering and technology, agricultural sciences, and medical sciences. The expenditures should be categorized by research theme. If this is not possible, either use the categories provided in the table below, or categorize by researcher or research unit.

Total (124~126)	(10 thousand yen)
	123
Basic research*1	124
Applied research*2	125
Development*3	126

\*1.**Basic research:** This refers to theoretical or experimental research undertaken for the formulation of hypothesis and theories, or for the acquisition of new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

\*2.**Applied research:** This refers to research undertaken in order to determine possible uses with a specific, practical objective or to explore a new form of application different from the existing one.

\*3.**Development:** This refers to research directed to producing new products, services, systems, equipment, materials and processes, etc. or to improving the existing ones, drawing on knowledge gained from basic and applied research and/or practical experience and producing additional knowledge.

[9] Enter the expenditure (disbursement) on R&D by product and service field.

- Enter by breaking down the "Total" in question [7] (intramural expenditure on R&D) by product and service fields.  
If the expenditure cannot be categorized into a specific product or service field, enter the amounts by obtaining ratios based on the respective number of researchers.

Total (128~161)	(10 thousand yen)		
	127		
Agricultural, forestry and fisheries products	128	Fabricated metal products	145
Mining	129	General machinery	146
Building construction and civil engineering	130	Household electric appliances	147
Food products	131	Other electric equipment (excluding 147)	148
Textile mill products	132	Information and communication electronics equipment and electronic parts	149
Pulp and paper products	133	Motor vehicles	150
Printing and publishing	134	Aircraft	151
Chemical fertilizers, and inorganic and organic chemical products	135	Railways and rolling stock	152
Chemical fibers	136	Other transportation equipment	153
Oil and paints	137	Precision instruments	154
Drugs and medicines	138	Other manufacturing products	155
Other chemical products	139	Electricity and gas	156
Petroleum and coal	140	Software and information technology	157
Rubber products	141	Others (Write down the product or service)	158
Ceramic and stone & clay products	142		159
Iron and steel	143		160
Non-ferrous metals	144		161

[10] Enter the expenditure on R&D by selected objective.

- If your company is conducting any R&D in the following fields, enter the respective disbursements among the "Total" in question [7] (intramural expenditure on R&D)

In case the contents of research overlap with more than one field, enter the amount of R&D expenditure into each related field.

In the case previously stated, any overlap through these fields is acceptable.

Field of life sciences	162	Field of nanotechnology	166
Field of information technology	163	Field of energy	167
Field of environmental science and technology	164	Field of space exploration	168
Field of materials	165	Field of oceanology	169

**NOTE:** If you have selected item 2 (extramural R&D only) in question [3] (yes/no of R&D activities), answer the following questions [11] and [12].

[11] Enter the R&D funds received from outside.

- Enter the total of all funds on R&D received from others, whatever the type of finance such as trust money, subsidies, allocations, etc. Record intramural expenditures, that is, all funds used for the performance of R&D within your business enterprise in the right columns.

Total (171~177,179~181,183,184) (186~192,194~196,198,199)		R&D funds received (Total) (10 thousand yen)	
			Intramural expenditure of R&D funds received
		170	185
Public organizations	From government	171	186
	From local government	172	187
	From national and public universities and colleges	173	188
	From national and public research institutions and independent administrative institutions	174	189
	From public corporations and enterprises, which are based on self-supporting accounting systems	175	190
	From others	176	191
From other companies		177	192
	Affiliated companies	178	193
From private universities and colleges		179	194
From non-profit institutions		180	195
The rest of the world	From other companies	181	196
		Affiliated companies	182
	From universities and colleges	183	198
	From others	184	199

[Expenditures on R&D by selected objective]

\*1. **Field of life sciences:** This refers to research on improvement and development of living by clarifying life related phenomena and various functions of organisms, and by applying the results to a variety of disciplines including medical, agricultural, industrial, environmental protection, energy development and so on.

\*2. **Field of information technology (IT):** In addition to R&D on hardware and software, that for the upgrading of networks and the development of high-speed computing technologies that enable high-speed processing, analysis and storage of massive quantities of information.

\*3. **Field of environmental science and technology:** This refers to research concerning the infection of polluted natural environments, life cycle and property, protection of natural environments from pollution and destruction, achievement of non-polluted environments, etc.

\*4. **Field of materials:** This means researches on 1) investigation and control of the structure, etc., of substances on the level of atoms and molecules which become the bases of IT, medical sciences, etc., and 2) development of the materials for the high value added energy and environment-related substances that can meet the needs to save energy and natural resources and recycle natural and other resources.

\*5. **Field of nanotechnology:** R&D for the achievement of functions utilizing nanosize material/substance characteristics.

\*6. **Field of energy:** This refers to research relating to exploration, production, conversion, transportation, consumption, safety etc., in relation to the development and reasonable use of energy resources.

\*7. **Field of space exploration:** This includes research on rockets and artificial satellites and also research on tracing or communication stations.

\*8. **Field of oceanology:** This means oceanic research and technical development relating to culture of bio-resources, development of mineral resources, research on ocean space, utilization of seawater, etc.

[12] Enter the R&D funds paid outside.

- Enter all funds on R&D paid outside for the performance of R&D, whatever the type of payment (trust, dues, etc.). Record those paid from own funds in the right columns.

Total (201~205,207~209,211,212) (214~218,220~222,224,225)		R&D funds received (Total) (10 thousand yen)	
			Extramural expenditure of R&D funds (self-financed)
		200	213
Public organizations	To national and public universities and colleges	201	214
	To national and public research institutions and independent administrative institutions	202	215
	To public corporations and enterprises, which are based on self-supporting accounting systems	203	216
	To others	204	217
To other companies		205	218
	Affiliated companies	206	219
To private universities and colleges		207	220
To non-profit institutions		208	221
The rest of the world	To other companies	209	222
	Affiliated companies	210	223
	To universities and colleges	211	224
	To others	212	225

Remarks column	(In addition to changing the location and name of the business enterprise, description of business, etc., enter any special notes relevant to what you have filled in.)
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