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U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
BRD-1 (02-01-2018)

2017 BUSINESS RESEARCH AND DEVELOPMENT SURVEY

DUE DATE:

Need help or have questions about filling out the form?

Visit https://www.census.gov/programs-surveys/brds/information.html

Here, you can access question-by-question detailed instructions and learn more about the survey.

Call toll-free 1-800-772-7851, between 8:00 a.m. and 5:00 p.m. Eastern time, Monday through Friday.

Please file your form electronically (see details below).

Or mail your completed form to:

U.S. CENSUS BUREAU
1201 EAST 10th STREET
JEFFERSONVILLE, IN
47132-0001

(Please correct any errors in this mailing address)

INTERNET REPORTING OPTION AVAILABLE
Please complete this survey online at: https://portal.census.gov

Authentication Code:

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, Sections 8(b), 131, and 182, and Title 42, United States Code, Sections 1861-76 (National Science Foundation Act of 1950, as amended) authorize this collection. Title 13, United States Code, Sections 224 and 225 require your response. The U.S. Census Bureau is required by Section 9 of the same law to keep your information **CONFIDENTIAL** and can use your responses only to produce statistics. The Census Bureau is not permitted to publicly release your responses in a way that could identify your business, organization, or institution. Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data.

THIS COLLECTION HAS BEEN APPROVED by the Office of Management and Budget (OMB). The eight-digit OMB approval number is 0607-0912 and appears at the upper right corner of this page. Without this approval, we could not conduct this survey.

We estimate this survey will take an average of 3.3 hours to complete. More information about this estimate and an address where you may write with comments is on the back of this form.

THANK YOU – YOUR RESPONSE IS IMPORTANT. Accurate and timely statistical information could not be produced without your cooperation and goodwill. Thank you.

~ This survey is jointly conducted by the U.S. Census Bureau and the National Science Foundation ~

Table of Contents

This survey is divided into seven sections based on subject matter. You may need to collaborate with colleagues in different departments to complete all sections. The following table of contents summarizes the subject matter covered by each section and what is required to complete them.

Section 1: Company Information p.4

Topics include company ownership, business activities, revenues, and employees.

Section 2: R&D Paid For by Your Company p.8

Topics include geographic location and accounting details related to R&D expenses.

Section 3: Costs Paid For by Others p.19

Topics include customer-sponsored work and activities funded through grants and/or reimbursements.

Section 4: Capital Expenditures p.34

Topics include company expenditures for property, plant, and equipment including capitalized software.

Section 5: Management and Strategy of R&D p.35

Topics include characteristics of R&D reported in Sections 2 and 3. Requires familiarity with the technical and strategic aspects of your company's R&D.

Section 6: Human Resources p.40

Topics include your company's employees, focusing on those who work on R&D activities.

Section 7: Intellectual Property and Technology Transfer p.43

Topics include patenting, licensing, and other technology transfer activities.

Changes from the 2016 survey

Questions related to product and process innovation have been removed. Questions related to capital expenditures have been moved to their own section. Skip patterns have been introduced to reduce the number of questions companies with relatively small R&D expenditures are required to answer. For a list of specific changes, go to **https://www.census.gov/programs-surveys/brds/about/faq.html**.

Electronic materials

Electronic versions of the questionnaire and related information are available at **https://www.census.gov/programs-surveys/brds/information.html**.

Available materials include:

- PDF copy of the questionnaire
- Excel worksheets for each section that can be completed and uploaded
- Question-by-question instructions, definitions, and examples that provide clarification
- Answers to frequently asked questions, including how the data will be used

Filing electronically

You may submit your survey online via a secure website. Online submission allows you to save the data as you go, so you can exit and resume later where you left off. It also allows you to save an electronic copy of your completed survey. To submit online, follow the instructions at **https://www.census.gov/programs-surveys/brds/information.html**.

What is Research and Development (R&D)?

Research and development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge and to devise new applications of available knowledge. This includes: a) activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses (basic research); b) activities aimed at solving a specific problem or meeting a specific commercial objective (applied research); and c) systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes (development). R&D includes both direct costs such as salaries of researchers as well as administrative and overhead costs clearly associated with the company's R&D.

The term R&D does NOT include expenditures for:

- Costs for routine product testing, quality control, and technical services unless they are an integral part of an R&D project
- Market research
- Efficiency surveys or management studies
- Literary, artistic, or historical projects, such as films, music, or books and other publications
- Prospecting or exploration for natural resources

Does R&D include development of software and Internet applications?

Research and development activity in software and Internet applications refers only to activities with an element of uncertainty and that are intended to close knowledge gaps and meet scientific and technological needs. Report in this survey all software R&D as defined here regardless of the eventual user (internal or external).

R&D activity in software INCLUDES:

- Software development or improvement activities that expand scientific or technological knowledge
- Construction of new theories and algorithms in the field of computer science

R&D activity in software EXCLUDES:

- Software development that does not depend on a scientific or technological advance, such as
  - supporting or adapting existing systems
  - adding functionality to existing application programs, and
  - routine debugging of existing systems and software
- Creation of new software based on known methods and applications
- Conversion or translation of existing software and software languages
- Adaptation of a product to a specific client, unless knowledge that significantly improved the base program was added in that process

Reporting unit

The reporting unit is your company, including all subsidiaries and divisions regardless of location. Include only subsidiary companies where there is more than 50 percent ownership. If you are owned by a foreign parent, the reporting unit for the survey is your U.S.-located company, including all your majority-owned subsidiaries and divisions regardless of location. For reporting purposes, your foreign parent and any foreign affiliates your company does not own should be treated the same as any business partner, customer, or supplier you do not own.

Reporting period

Report data for the calendar year 2017, if possible, or for your company's fiscal year ending between April 2017 and March 2018.

Estimates are acceptable

Please report all items to the best of your ability.

To speak with a survey specialist, call 1-800-772-7851.

Survey specialists are available Monday through Friday, from 8:00 a.m. to 5:00 p.m. Eastern time, to help with any questions you may have.

SECTION 1
Company Information

1-1 **Has your company ceased operations?**

☐ Yes → **Please provide the following information:**

(MM) (DD) (YYYY)

Date your company ceased operations

REPORTING INSTRUCTIONS:
If your company ceased operations between April 1, 2017 and December 31, 2017, report only for the period January 1, 2017 to the date your company ceased operations. If your company ceased operations before April 1, 2017, complete Question 1-6 and return this form to the Census Bureau - you are not required to complete the rest of this survey.

☐ No

1-2 **Was your company a majority-owned subsidiary of a foreign company in 2017?**

☐ Yes → **Please provide the following information and then skip to Question 1-4:**

Name of parent company

REPORTING INSTRUCTIONS FOR FOREIGN-OWNED COMPANIES:
If you are owned by a foreign parent, the reporting unit for the survey is your U.S.-located company, including all your majority-owned subsidiaries and divisions regardless of location. For reporting purposes, your foreign parent and any foreign affiliates your company does not own should be treated the same as any business partner, customer, or supplier you do not own.

If you pay your foreign parent for R&D services, those costs should be included in your responses in Section 2 as "costs for purchased R&D services."

If your foreign parent pays or reimburses your company for R&D services, the costs for this R&D should be included in your responses in Section 3 as "costs funded, paid for, or reimbursed by others."

Report your survey data using U.S. Generally Accepted Accounting Principles (U.S. GAAP) as recognized by the Financial Accounting Standard Board (FASB). If your company follows International Financial Reporting Standards (IFRS), we request that you estimate any adjustments that would be required to conform to U.S. GAAP.

☐ No

1-3 **Did another U.S. company other than a holding company own more than 50 percent of the voting interest in your company during 2017?**

☐ Yes ➔ **Please provide the following information:**

Name of parent company

EIN of owner (9 digits)

Date parent company purchased your company (MM) (DD) (YYYY)

REPORTING INSTRUCTIONS FOR U.S.-OWNED COMPANIES:
If your company was purchased between April 1, 2017 and December 31, 2017, report only for the period January 1, 2017 to the date of purchase. If your company was purchased before April 1, 2017, complete Question 1-6 and return this form to the Census Bureau – you are not required to complete the rest of this survey unless your owner instructs you to complete this survey.

☐ No

1-4 **Did your company own more than 50 percent of any company operations or subsidiaries outside the 50 United States and D.C. during 2017?**

☐ Yes ➔ **Include data for these operations/subsidiaries in your survey responses**

☐ No

1-5 **Did your company have discontinued operations in 2017?**

☐ Yes ➔ **Include data for these operations in your survey responses**

☐ No

1-6 **Who is the survey coordinator?**

The survey coordinator is the person at your company responsible for gathering all requested information, ensuring instructions are followed, and submitting the completed survey. The survey coordinator may not be able to personally complete the entire survey and may need to request information from other knowledgeable resources concerning your company's R&D, accounting, human resources, and legal matters.

Name

Title

Telephone
Area code Number Extension

E-mail address

1-7 **What was the total number of worldwide employees working at your company for the pay period that included March 12, 2017?**

Include:
- Full- and part-time employees

Exclude:
- Leased or temporary employees and consultants

Number

1-8 **How many of the employees reported in Question 1-7 were employees of your company's domestic operations and foreign operations?**

Domestic operations employees include all employees whose payroll was reported on the first quarter filing of IRS Form 941, Employer's Quarterly Tax Return.

	(1) Domestic operations	(2) Foreign operations	(3) Total employees
Employees			

Total equals Question 1-7

TIP *If the amount reported in Question 1-8, column 1, was less than 10, return this form to the Census Bureau – you are not required to complete the rest of this survey.*

Business Codes

1-9 **Do the business code(s) listed below reflect all applicable codes from the list on pages 46-47 in which your company operated worldwide during 2017?**

NOTE: These codes will be used to describe both business activities and R&D activities and may differ from industry codes used by other government surveys and reports.

If no business codes are printed below, please write in the codes from pages 46-47 that apply to your company.

☐ Yes

☐ No → **Draw a line through codes that are incorrect. As needed, enter additional codes and descriptions from pages 46-47 in the spaces provided.**

Business code (see pages 46-47)	Description

1-10 **Please describe your company's primary business activity during 2017.**

1-11 **What was the amount of your company's worldwide sales and revenues during 2017?**

Include:
- Sales and operating revenues from discontinued operations

$Bil. Mil. Thou.

1-12 **How much of the amount reported in Question 1-11 was attributable to or originated from domestic operations?**

Include:
- Sales and operating revenues to foreign customers, including foreign subsidiaries

Example: U.S. Manufacturing Corporation sells parts to customers around the world. However, because all its operations are located inside the United States it reports 100% of its sales in this question.

$Bil. Mil. Thou.

1-13 **How much of the 2017 sales and operating revenue amounts was for each business code listed or amended in Question 1-9:**
(1) Worldwide sales and operating revenues reported in Question 1-11
(2) Sales and operating revenues from domestic operations reported in Question 1-12

	Business code	(1) Worldwide sales and operating revenues $Bil. Mil. Thou.	(2) Sales and operating revenues from domestic operations $Bil. Mil. Thou.
a.			
b.			
c.			
d.			
e.			
f.			
g.			
h.			
i.	Less eliminations – the sales and revenues that are eliminated in order to consolidate the business codes. . . .	( )	( )
j.	**Total**		
		Total equals Question 1-11	*Total equals Question 1-12*

SECTION 2

SECTION 2
R&D Paid For by Your Company

Who should answer this section?
Persons familiar with accounting concepts and with access to financial records related to your company's R&D activities should complete this section.

What does this section cover?
This section requests information about your company's R&D at multiple levels of detail: for your worldwide consolidated enterprise, for units or parts of your company defined by geography (countries, states, specific location), and for parts of your company defined by business code.

2-1 **What was the worldwide R&D expense (both direct and indirect) for your company in 2017?**

If your company is publicly traded, this amount is equivalent to that disclosed on SEC Form 10-K as defined in FASB ASC Topic 730, Research and Development.

If your company is foreign-owned, refer to the instructions on page 4. Additional guidance, such as for **privately owned companies,** is available online at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q2-1

NOTE: Report your company's R&D expense even if the amount is not considered material for your company's financial statements.

$Bil. Mil. Thou.

2-2 **Does the amount reported in Question 2-1 include any of the following costs?**

a. Collaborative R&D that was reimbursed by business partners, such as through cost-sharing agreements	☐ Yes	☐ No
b. R&D paid for by grants (government or private foundations)	☐ Yes	☐ No
c. R&D paid for by customers (customer-sponsored R&D)	☐ Yes	☐ No
d. Technical services not an integral part of an R&D project (such as product support provided by R&D employees)	☐ Yes	☐ No
e. Bid and proposal costs	☐ Yes	☐ No
f. Expense your company claimed resulting from the acquisition of another company with unfinished R&D projects (in-process R&D)	☐ Yes	☐ No
g. Phase IV clinical trials	☐ Yes	☐ No

2-3 **If you answered "Yes" to any of the costs in Question 2-2, what was the amount of these costs that was included in your response to Question 2-1?**

$Bil. Mil. Thou.

2-4 **Subtract Question 2-3 from Question 2-1 and enter the result here. This is the <u>total R&D paid for by your company</u> in 2017.**

$Bil. Mil. Thou.

Is the amount entered in Question 2-4:

$0 → STOP **Skip to Section 3 on page 19.**

Less than $1 Million → STOP **Skip to Section 2 Worksheet on page 18 and then continue with Section 3 on page 19.**

$1 Million or greater → **Continue with Question 2-5.**

Indirect R&D charges

2-5 **How much of the amount reported in Question 2-4 was for R&D costs your company plans to recoup through indirect charges on U.S. federal government contracts (IR&D or independent R&D)?**

$Bil. Mil. Thou.

R&D paid for by your company

2-6 **Of the amount reported in Question 2-4, what were the costs for each business code listed or amended in Question 1-9?**

Allocate R&D costs that are applicable to more than one business code on a reasonable basis. Allocation in proportion to operating revenues is acceptable unless some alternative allocation basis is more appropriate.

	Business code	$Bil.	Mil.	Thou.
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.	**Total** (equals Question 2-4)			

2-7 **Of the amount reported in Question 2-4, what costs were incurred by your company in the following locations?**

	$Bil.	Mil.	Thou.
a. Domestic United States (50 states and D.C.) [Include R&D performed by domestic operations that is paid for by foreign subsidiaries]			
b. All other countries (also, Puerto Rico) [Include R&D performed by foreign subsidiaries that is paid for by domestic operations]			
c. **Total** (equals Question 2-4)			

SECTION 2

2-8 **How much of the (1) domestic, (2) foreign, and (3) worldwide R&D paid for by your company in 2017 was for each of the following types of costs?**

	(1) Domestic			(2) Foreign			(3) Worldwide		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
a. Salaries, wages, and fringe benefits									
b. Stock-based compensation									
c. Leased employees or temporary staffing, including on-site consultants, working on R&D									
d. Expensed equipment (not capitalized)									
e. Materials and supplies									
f. Leased facilities and equipment									
g. Depreciation and amortization on R&D property, plant, and equipment									
h. Royalties and licensing fees (including payments made to others for the use of patents and other forms of intellectual property used in your company's R&D)									
i. Payments to business partners for collaborative R&D (exclude royalties and licensing fees)									
j. Purchased R&D services (if your company is foreign-owned, include payments to your foreign parent for R&D)									
k. All other purchased services except R&D									
l. All other costs (including administrative and overhead costs **clearly associated with your company's R&D**)									

Question continues on next page

2-8 **(Continued)**

	(1) Domestic $Bil.	(1) Domestic Mil.	(1) Domestic Thou.	(2) Foreign $Bil.	(2) Foreign Mil.	(2) Foreign Thou.	(3) Worldwide $Bil.	(3) Worldwide Mil.	(3) Worldwide Thou.
m. **Total**									
	Total equals Question 2-7, line a			*Total equals Question 2-7, line b*			*Total equals Question 2-4*		

2-9 **Add 2-8, lines i and j for each column, and enter the result here. This is R&D performed by others.**

	(1) Domestic $Bil.	(1) Domestic Mil.	(1) Domestic Thou.	(2) Foreign $Bil.	(2) Foreign Mil.	(2) Foreign Thou.	(3) Worldwide $Bil.	(3) Worldwide Mil.	(3) Worldwide Thou.

2-10 **Subtract 2-9 from 2-8, line m, for each column and enter the result here. This is R&D performed by your company.**

	(1) Domestic $Bil.	(1) Domestic Mil.	(1) Domestic Thou.	(2) Foreign $Bil.	(2) Foreign Mil.	(2) Foreign Thou.	(3) Worldwide $Bil.	(3) Worldwide Mil.	(3) Worldwide Thou.

2-11 **Of the amount reported in Question 2-10, column 2, how much R&D was performed in the following locations?** For full list of countries in each region see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q2-11.

	$Bil.	Mil.	Thou.		$Bil.	Mil.	Thou.
Canada				Germany			
Puerto Rico				Hungary.			
				Ireland.			
Europe	$Bil.	Mil.	Thou.				
Austria.				Italy			
Belgium.				Luxembourg . . .			
Czech Rep				Netherlands. . . .			
Denmark				Norway			
Finland				Poland.			
France				Russia			

Question continues on next page

SECTION 2

2-11 (Continued)

	$Bil.	Mil.	Thou.
Spain			
Sweden			
Switzerland			
Turkey			
United Kingdom			
Other Europe			

	$Bil.	Mil.	Thou.
New Zealand			
Singapore			
South Korea			
Taiwan			
Thailand			
Other Asia/ Pacific			

Latin America/ Other Western Hemisphere

	$Bil.	Mil.	Thou.
Argentina			
Brazil			
Chile			
Mexico			
Other Latin America/OWH			

Middle East

	$Bil.	Mil.	Thou.
Israel			
Other Middle East			

Africa

	$Bil.	Mil.	Thou.
South Africa			
Other Africa			

Asia and Pacific

	$Bil.	Mil.	Thou.
Australia			
China			
Hong Kong			
India			
Indonesia			
Japan			
Malaysia			

	$Bil.	Mil.	Thou.
Total (equals Question 2-10, column 2)			

2-12 **How much of the amount reported in Question 2-10, column 1, was performed in each state (including D.C.) in 2017?**

	$Bil.	Mil.	Thou.		$Bil.	Mil.	Thou.
Alabama				Maine			
Alaska				Maryland			
Arizona				Massachusetts			
Arkansas				Michigan			
California				Minnesota			
Colorado				Mississippi			
Connecticut				Missouri			
Delaware				Montana			
District of Columbia				Nebraska			
Florida				Nevada			
Georgia				New Hampshire			
Hawaii				New Jersey			
Idaho				New Mexico			
Illinois				New York			
Indiana				North Carolina			
Iowa				North Dakota			
Kansas				Ohio			
Kentucky				Oklahoma			
Louisiana				Oregon			

Question continues on next page

SECTION 2

2-12 (Continued)

	$Bil.	Mil.	Thou.		$Bil.	Mil.	Thou.
Pennsylvania. . . .				Vermont			
Rhode Island. . . .				Virginia.			
South Carolina . .				Washington			
South Dakota . . .				West Virginia . . .			
Tennessee				Wisconsin			
Texas				Wyoming			
Utah				**Total** (equals Question 2-10, column 1)			

2-13 At what <u>domestic location</u> did your company perform the largest dollar amount of R&D in 2017?

Address 1

Address 2

City **State** **ZIP**

2-14 How much of the amount reported in Question 2-10, column 1, was from the location identified in Question 2-13?

$Bil.	Mil.	Thou.

2-15 **At what domestic location did your company perform the second largest dollar amount of R&D in 2017?**

Address 1

Address 2

City **State** **ZIP**

2-16 **How much of the amount reported in Question 2-10, column 1, was from the location identified in Question 2-15?**

$Bil. Mil. Thou.

2-17 **Of the domestic R&D performed by your company reported in Question 2-10, column 1, how much was for each business code reported in Question 2-6?**

Business code		(1) Domestic R&D performed by your company $Bil.	Mil.	Thou.
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i. **Total**				

Total equals Question 2-10, column 1

SECTION 2

R&D transactions between legal entities under common ownership

2-18 **How much of the domestic R&D performed by your company reported in Question 2-10, column 1, was paid for by your company's foreign subsidiaries through inter-company transactions?**

Example: Company Y owns a subsidiary in France. In order to complete the development of a product in 2017, the French subsidiary paid for R&D performed at Company Y's U.S. R&D center. The cost of the U.S. R&D that was paid for by the French subsidiary would be included in this item.

$Bil.	Mil.	Thou.

2-19 **How much of the foreign R&D performed by your company reported in Question 2-10, column 2, was paid for by your company's domestic subsidiaries through inter-company transactions?**

Example: Company Z owns a subsidiary in France. In order to complete the development of a product in 2017, the domestic operations paid for R&D performed at its subsidiary's R&D center in France. The cost of the French subsidiary's R&D that was paid for by the domestic operations would be included in this item.

$Bil.	Mil.	Thou.

R&D performed by others

2-20 **How much of the domestic R&D performed by others reported in Question 2-9, column 1, was performed by the following types of organizations?**

	$Bil.	Mil.	Thou.
a. Companies located inside the United States			
b. Your company's foreign parent (if you are owned by a foreign parent).			
c. Other companies located outside the United States			
d. U.S. federal government agencies or laboratories.			
e. U.S. state and local government agencies or laboratories. . .			
f. Universities, colleges, and academic researchers (including principal investigators) located inside the United States			
g. All other organizations inside the United States			
h. All other organizations outside the United States			
i. **Total domestic R&D paid for by your company that was performed by others** (equals Question 2-9, column 1).			

SECTION 2

Activities with academia

2-21 **In addition to the amount reported in Question 2-20, line f, did your company make monetary gifts to U.S. universities or colleges in 2017 that included support for R&D?**

☐ Yes ➔ **Continue with Question 2-22**

☐ No ➔ **Skip to Question 2-23**

2-22 **What was the amount of monetary gifts made by your company to U.S. universities or colleges in 2017 that was for R&D?**

$Bil.	Mil.	Thou.

Projected R&D for 2018

2-23 **What are your company's projected 2018 costs for (1) domestic, (2) foreign, and (3) worldwide R&D paid for by your company?**

NOTE: These amounts are the 2018 projections for the amounts reported in Question 2-8, line m.

(1) Domestic			(2) Foreign			(3) Worldwide		
$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.

2-24 **How much of the amount reported in Question 2-23, column 1, is for projected purchased R&D services and projected payments to business partners for collaborative R&D?**

Domestic		
$Bil.	Mil.	Thou.

SECTION 2

SECTION 2 WORKSHEET

Complete if amount reported in Question 2-4 is less than $1 Million

1 **Of the total R&D paid for by your company reported in Question 2-4, what costs were incurred in the following locations?**

	$Mil.	Thou.
a. Domestic United States (50 states and D.C.) [Include R&D performed by domestic operations that is paid for by foreign subsidiaries]		
b. All other countries (also, Puerto Rico) [Include R&D performed by foreign subsidiaries that is paid for by domestic operations]		
c. **Total**		

2 **How much of the amount reported in Question 1, line a was for each of the following types of costs?**

	$Mil.	Thou.
a. Salaries, wages, and fringe benefits		
b. Payments to business partners for collaborative R&D		
c. Purchased R&D services		
d. All other costs		
e. **Total** (equals Question 1, line a)		

3 **Add Question 2, lines a and d, and enter the result here. This is the domestic R&D paid for and performed by your company in 2017.**

$Mil.	Thou.

4 **Of the domestic R&D paid for and performed by your company reported in Question 3, how much was for the following categories?**

	$Mil.	Thou.
a. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses		
b. Applied research–activities aimed at solving a specific problem or meeting a specific commercial objective		
c. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes		
d. **Total** (equals Question 3)		

SECTION 3
Costs Paid For by Others

Who should answer this section?
Persons familiar with accounting concepts and with access to financial records related to your company's activities paid for by others should complete this section.

What does this section cover?
Topics include customer-sponsored work and activities funded through grants, contracts, and/or reimbursements. Costs for these activities are requested at multiple levels of detail: for your worldwide consolidated enterprise, for units or parts of your company defined by geography (countries, states), and for parts of your company defined by business code.

3-1 **What were your company's worldwide costs (both direct and indirect) in 2017 for the following that were funded, paid for, or reimbursed by others not owned by your company?**

Exclude:
- Costs that were paid for by your company, such as those reported in Question 2-4
- Payments in excess of the actual cost of the work performed (such as profit or fees)

	$Bil.	Mil.	Thou.
a. R&D reimbursed by your company's foreign parent (if you are owned by a foreign parent)			
b. Collaborative R&D reimbursed by business partners, such as through cost-sharing agreements			
c. R&D paid for by grants (government or private foundations)			
d. Defense R&D goods or services provided as a prime or as a sub, to the government and/or government contractors			

Exclude:
- Costs for projects that have achieved technical feasibility, such as low-rate initial production. Additional guidance is available online at https://www.census.gov/programs-surveys/brds/information.html

e. Medical clinical trial Phase I-III services provided to others not owned by your company (include pass-through costs)			
f. Medical R&D services, other than clinical trials, provided to others not owned by your company			
g. Nondefense custom software development and/or computer systems designed for others not owned by your company			

Exclude:
- Software development that does not depend on a scientific or technological advance, such as adding functionality to existing application programs, debugging systems, and adapting existing software

h. Prototype development, production, and testing for customer's products prior to their introduction to the market (excluding defense-related prototyping reported in line d)			
i. All other R&D services provided to the Federal Government or to others not owned by your company			
j. **Total**			

SECTION 3

SECTION 3

3-1 **(Continued)**

The amount entered in Question 3-1, line j is the total R&D paid for by others in 2017. Is this amount:

$0 → STOP **If Question 2-4 was also $0, then you have completed this survey, otherwise skip to Section 4 on page 34.**

Less than $1 Million → STOP **Skip to Section 3 Worksheet on page 33 and then continue with Section 4 on page 34.**

$1 Million or greater → **Continue with Question 3-2.**

R&D paid for by others

3-2 **Of the amount reported in Question 3-1, line j, what costs were incurred by your company in the following locations?**

	$Bil.	Mil.	Thou.
a. Domestic United States (50 states and D.C.)			
b. All other countries (also, Puerto Rico)			
c. **Total** (equals Question 3-1, line j)			

3-3 **How much of the (1) domestic, (2) foreign, and (3) worldwide R&D paid for by others in 2017 was for each of the following types of costs?**

	(1) Domestic			(2) Foreign			(3) Worldwide		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
a. Salaries, wages, and fringe benefits									
b. Stock-based compensation									
c. Leased employees or temporary staffing, including on-site consultants, working on R&D									
d. Expensed equipment (not capitalized)									
e. Materials and supplies									
f. Leased facilities and equipment									

Question continues on next page

3-3 **(Continued)**

	(1) Domestic			(2) Foreign			(3) Worldwide		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
g. Depreciation and amortization on R&D property, plant, and equipment									
h. Royalties and licensing fees (including payments made to others for the use of patents and other forms of intellectual property used in your company's R&D)									
i. Payments to business partners for collaborative R&D (exclude royalties and licensing fees)									
j. Purchased R&D services (if your company is foreign-owned, include payments to your foreign parent for R&D)									
k. All other purchased services except R&D									
l. All other costs (including administrative and overhead costs **clearly associated with your company's R&D**)									
m. **Total**									
	Total equals Question 3-2, line a			*Total equals Question 3-2, line b*			*Total equals Question 3-1, line j*		

3-4 **Add 3-3, lines i and j for each column, and enter the result here. This is R&D performed by others (e.g., subcontracted/passed-through R&D costs).**

(1) Domestic			(2) Foreign			(3) Worldwide		
$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.

3-5 **Subtract 3-4 from 3-3, line m, for each column and enter the result here. This is R&D performed by your company that was paid for by others.**

(1) Domestic			(2) Foreign			(3) Worldwide		
$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.

SECTION 3

SECTION 3

3-6 **Of the amount reported in Question 3-5, column 2, how much R&D was performed in the following locations?** For full list of countries in each region see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q3-6.

	$Bil.	Mil.	Thou.
Canada			
Puerto Rico			
Europe			
Austria			
Belgium			
Czech Rep			
Denmark			
Finland			
France			
Germany			
Hungary			
Ireland			
Italy			
Luxembourg			
Netherlands			
Norway			
Poland			
Russia			
Spain			
Sweden			
Switzerland			
Turkey			
United Kingdom			
Other Europe			
Latin America/ Other Western Hemisphere			
Argentina			
Brazil			
Chile			
Mexico			
Other Latin America/OWH			
Asia and Pacific			
Australia			
China			
Hong Kong			
India			
Indonesia			
Japan			
Malaysia			
New Zealand			
Singapore			

Question continues on next page

3-6 **(Continued)**

	$Bil.	Mil.	Thou.
South Korea . . .			
Taiwan			
Thailand			
Other Asia/ Pacific			

Middle East	$Bil.	Mil.	Thou.
Israel			
Other Middle East			

Africa	$Bil.	Mil.	Thou.
South Africa. . . .			
Other Africa. . . .			
Total (equals Question 3-5, column 2).			

3-7 **How much of the domestic R&D performed by your company that was paid for by others reported in Question 3-5, column 1, was for each business code listed or amended in Question 1-9?**

Allocate R&D that is applicable to more than one business code on a reasonable basis. Allocation in proportion to operating revenues is acceptable unless some alternative allocation basis is more appropriate.

	Business code	$Bil.	Mil.	Thou.
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.	**Total** (equals Question 3-5, column 1) . .			

SECTION 3

SECTION 3

3-8 **How much of the amount reported in Question 3-5, column 1, was paid for by each of the following?**

If your company is a subcontractor or subgrantee, report the original source of funds.

Example: Company Sub Inc. performs custom software development for a large defense company as a subcontractor on a contract with the U.S. Dept. of Defense. Even though Sub Inc. is working directly for the defense company, it reports the cost of this development in line d because the Dept. of Defense was the original source of funds.

	$Bil.	Mil.	Thou.
a. Other companies located inside the United States			
b. Your company's foreign parent (if you are owned by a foreign parent)			
c. Other companies located outside the United States			
d. U.S. federal government agencies or laboratories			
e. U.S. state government agencies or laboratories			
f. Foreign government agencies or laboratories			
g. Universities, colleges, and academic researchers (including principal investigators) located inside the United States			
h. Universities and colleges located outside the United States			
i. All other organizations inside the United States			
j. All other organizations outside the United States			
k. **Total** (equals Question 3-5, column 1)			

3-9 **Add Question 3-8, lines a, b, and c, and enter the result here. This is the domestic R&D performed by your company that was paid for by other companies.**

$Bil.	Mil.	Thou.

3-10 **Using the list of business codes printed below, allocate the amount reported in Question 3-9 based on the industries of the companies that paid for the R&D. As needed, enter additional codes from pages 46-47 in the spaces provided.**

	Business code	Description	$Bil.	Mil.	Thou.
a.	32543	Biotechnology-based pharmaceutical and biological products (except diagnostics)			
b.	32541	Pharmaceutical, medicinal, and botanical products manufacturing			
c.	33500	Electrical equipment, appliances, and components manufacturing			
d.	33440	Semiconductor and other electronic components manufacturing			
e.	33910	Medical equipment and supplies manufacturing			
f.	33610	Motor vehicles manufacturing			
g.		. .			
h.		. .			
i.		. .			
j.		**Total** (equals Question 3-9)			

SECTION 3

SECTION 3

3-11 **How much of the amount reported in Question 3-8, line d, was paid for by the following agencies?**

	$Bil.	Mil.	Thou.
a. Department of Defense			
b. Department of Energy			
c. National Aeronautics and Space Administration			
d. National Institutes of Health			
e. Department of Homeland Security			
f. Department of Transportation			
g. Environmental Protection Agency			
h. National Science Foundation			
i. All other, please specify:			
j. **Total** (equals Question 3-8, line d)			

3-12 **How much of the amount reported in Question 3-8, line d, was performed under the following types of agreements?**

	$Bil.	Mil.	Thou.
a. Contracts (include direct or prime contracts and subcontracts)			
b. Grants, reimbursements, and all other agreements			
c. **Total** (equals Question 3-8, line d)			

3-13 **Subtract Question 3-8, line d, from Question 3-8, line k, and enter the result here. This is the <u>domestic R&D performed by your company that was paid for by nonfederal sources</u>.**

$Bil.	Mil.	Thou.

3-14 **How much of the following three amounts was performed in each state (including D.C.):**

(1) Domestic R&D paid for by the U.S. federal government reported in Question 3-8, line d

(2) Domestic R&D paid for by nonfederal sources reported in Question 3-13

(3) Total domestic R&D performed by your company that was paid for by others reported in Question 3-5, column 1

	(1) Federal			(2) Nonfederal			(3) Total		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
Alabama									
Alaska									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
District of Columbia									
Florida									
Georgia									
Hawaii									

Question continues on next page

SECTION 3

3-14 (Continued)

	(1) Federal			(2) Nonfederal			(3) Total		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
Idaho									
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									

Question continues on next page

SECTION 3

3-14 (Continued)

	(1) Federal			(2) Nonfederal			(3) Total		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									
Oregon									

Question continues on next page

SECTION 3

3-14 (Continued)

	(1) Federal			(2) Nonfederal			(3) Total		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
Pennsylvania									
Rhode Island									
South Carolina									
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

Question continues on next page

3-14 **(Continued)**

	(1) Federal			(2) Nonfederal			(3) Total		
	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.	$Bil.	Mil.	Thou.
Total									
	Total equals Question 3-8, line d			*Total equals Question 3-13*			*Total equals Question 3-5, column 1*		

3-15 **At what domestic location did your company perform the largest dollar amount of R&D that was paid for by others in 2017?**

Address 1

Address 2

City **State** **ZIP**

3-16 **How much of the amount reported in Question 3-5, column 1, was from the location identified in Question 3-15?**

$Bil. Mil. Thou.

3-17 **At what domestic location did your company perform the second largest dollar amount of R&D that was paid for by others in 2017?**

Address 1

Address 2

City **State** **ZIP**

3-18 **How much of the amount reported in Question 3-5, column 1, was from the location identified in Question 3-17?**

$Bil. Mil. Thou.

SECTION 3

SECTION 3

R&D performed by others

3-19 **Of the domestic R&D performed by others reported in Question 3-4, column 1, how much was paid for by U.S. federal government agencies or laboratories?**

$Bil. Mil. Thou.

Projected R&D paid for by others in 2018

3-20 **What are your company's projected 2018 costs for R&D that will be paid for by others?**

NOTE: This amount is the 2018 projection for what is reported in Question 3-1, line j.

$Bil. Mil. Thou.

3-21 **How much of the projected costs in 2018 for R&D that will be paid for by others reported in Question 3-20 will be performed by your company in the United States?**

NOTE: This amount is the 2018 projection for what is reported in Question 3-5, column 1.

$Bil. Mil. Thou.

3-22 **How much of the projected costs in 2018 for domestic R&D performed by your company reported in Question 3-21 will be paid for by the U.S. federal government?**

NOTE: This amount is the 2018 projection for what is reported in Question 3-8, line d.

$Bil. Mil. Thou.

SECTION 3 WORKSHEET

Complete if amount reported in Question 3-1, line j is less than $1 Million

1 **Of the total R&D paid for by others reported in Question 3-1, line j, what costs were incurred in the following locations?**

	$Mil.	Thou.
a. Domestic United States (50 states and D.C.)		
b. All other countries (also, Puerto Rico)		
c. **Total**		

2 **How much of the amount reported in Question 1, line a, was for each of the following types of costs?**

	$Mil.	Thou.
a. Salaries, wages, and fringe benefits		
b. Payments to business partners for collaborative R&D		
c. Purchased R&D services		
d. All other costs		
e. **Total** (equals Question 1, line a)		

3 **Add Question 2, lines a and d, and enter the result here. This is the domestic R&D performed by your company that was paid for by others in 2017.**

$Mil.	Thou.

4 **Of the domestic R&D performed by your company that was paid for by others reported in Question 3, how much was for the following categories?**

	$Mil.	Thou.
a. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses		
b. Applied research–activities aimed at solving a specific problem or meeting a specific commercial objective		
c. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes		
d. **Total** (equals Question 3)		

SECTION 3

SECTION 4
Capital Expenditures

Who should answer this section?
Persons familiar with your company's accounting for capital expenditures and with access to records related to those expenditures should complete this section.

What does this section cover?
This section requests financial information about your company's capital expenditures, specifically those for R&D operations.

4-1 **What was the amount of your company's capital expenditures in the domestic United States in 2017?**

	$Bil.	Mil.	Thou.

4-2 **How much of the amount reported in Question 4-1 was for R&D operations?**

	$Bil.	Mil.	Thou.

4-3 **How much of the amount reported in Question 4-2 was for the following?**

	$Bil.	Mil.	Thou.
a. Land and structures			
b. Equipment			
c. Capitalized software			
d. All other capital expenditures for R&D operations			
e. **Total domestic capital expenditures for R&D** (equals Question 4-2)			

4-4 **Was any of the amount reported in Question 4-2 funded, paid for, or reimbursed by others not owned by your company** *(including your foreign parent)***?** ☐ Yes ☐ No

SECTION 4

SECTION 5
Management and Strategy of R&D

Who should answer this section?
Persons familiar with the technical, managerial, and strategic aspects of your company's R&D should complete this section.

What does this section cover?
This section requests information about the characteristics of the R&D reported in Sections 2 and 3. This section requests information about your company's worldwide consolidated R&D and the R&D your company performs in the domestic United States.

TIP *If the amount reported in Question 2-4 was less than $1 Million, skip to Question 5-15 on page 37.*

5-1 **What percentage of the total R&D paid for by your company reported in Question 2-4 was directed toward business areas or product lines that are new to your company?**

Example: Company A manufactures laptop computers. In 2017 Company A's management decided to attempt to enter the cellular phone market and used a portion of the company's R&D budget to develop cellular phones. Because this was a new line of business in 2017, Company A reports this R&D in this question.

____ %

Characteristics of domestic R&D paid for and performed by your company

5-2 **Copy the amount from Question 2-10, column 1. This is the domestic R&D paid for and performed by your company.**

	$Bil.	Mil.	Thou.

5-3 **How much of the amount reported in Question 5-2 was for the following categories?**

	$Bil.	Mil.	Thou.
a. Research–planned, systematic pursuit of new knowledge or understanding			
b. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes			
c. **Total** (equals Question 5-2)			

5-4 **If you reported any research in Question 5-3, line a, how much of that research was for the following categories?**

	$Bil.	Mil.	Thou.
a. Applied research–activities aimed at solving a specific problem or meeting a specific commercial objective			
b. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses			
c. **Total** (equals Question 5-3, line a)			

Areas of application for domestic R&D paid for and performed by your company

NOTE: You may report the same R&D in multiple areas for Questions 5-5 to 5-9.

5-5 **What percentage of the amount reported in Question 5-2 had energy applications, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?**

Example: Company B is a semiconductor manufacturer. Its products are not designed specifically for energy applications. In 2017, 10% of the domestic R&D performed by the company was focused on improving the energy efficiency of its products. Based on this, Company B reports "10%" for this question.

____ %

5-6 **What percentage of the amount reported in Question 5-2 had environmental protection applications, including pollution abatement?**

____ %

5-7 **What percentage of the amount reported in Question 5-2 had defense applications, including military applications and homeland security-related R&D?**

____ %

5-8 **What percentage of the amount reported in Question 5-2 had health or medical applications?**

____ %

5-9 **What percentage of the amount reported in Question 5-2 had agricultural applications?**

____ %

Technology focus of domestic R&D paid for and performed by your company

NOTE: You may report the same R&D in multiple areas for Questions 5-10 to 5-12.

5-10 **What percentage of the amount reported in Question 5-2 was for software products or software embedded in other projects or products?**

____ %

5-11 **What percentage of the amount reported in Question 5-2 was for biotechnology?** For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q5-11

Biotechnology – The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.

____ %

5-12 **What percentage of the amount reported in Question 5-2 was for nanotechnology?** For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q5-12

Nanotechnology – The application of science and technology to organisms, organic and inorganic materials as well as parts, products, and models thereof, at the nanometer-scale (but not exclusively below 1000 nanometers).

____ %

SECTION 5

Characteristics of foreign R&D paid for and performed by your company

5-13 **Copy the amount from Question 2-10, column 2. This is the foreign R&D paid for and performed by your company.**

	$Bil.	Mil.	Thou.

5-14 **How much of the foreign R&D paid for and performed by your company reported in Question 5-13 was for the following categories?**

	$Bil.	Mil.	Thou.
a. Research–planned, systematic pursuit of new knowledge or understanding			
b. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes			
c. **Total** (equals Question 5-13)			

Domestic R&D performed by your company that was paid for by others

TIP *If the amount reported in Question 3-1, line j was less than $1 Million, skip to Section 6 on page 40.*

5-15 **Copy the amount from Question 3-5, column 1. This is the domestic R&D performed by your company that was paid for by others.**

	$Bil.	Mil.	Thou.

5-16 **How much of the amount reported in Question 5-15 was for the following categories?**

	$Bil.	Mil.	Thou.
a. Research–planned, systematic pursuit of new knowledge or understanding			
b. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes			
c. **Total** (equals Question 5-15)			

5-17 **If you reported any research in Question 5-16, line a, how much of that research was for the following categories?**

	$Bil.	Mil.	Thou.
a. Applied research–activities aimed at solving a specific problem or meeting a specific commercial objective			
b. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses			
c. **Total** (equals Question 5-16, line a)			

SECTION 5

NOTE: You may report the same R&D in multiple areas for Questions 5-18 to 5-22.

5-18 **What percentage of the amount reported in Question 5-15 had energy applications, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?** ___ %

5-19 **What percentage of the amount reported in Question 5-15 had environmental protection applications, including pollution abatement?** ___ %

5-20 **What percentage of the amount reported in Question 5-15 had defense applications, including military applications and homeland security-related R&D?** ___ %

5-21 **What percentage of the amount reported in Question 5-15 had health or medical applications?** ___ %

5-22 **What percentage of the amount reported in Question 5-15 had agricultural applications?** ___ %

Technology focus of domestic R&D performed by your company that was paid for by others

NOTE: You may report the same R&D in multiple areas for Questions 5-23 to 5-25.

5-23 **What percentage of the amount reported in Question 5-15 was for software products or software embedded in other projects or products?** ___ %

5-24 **What percentage of the amount reported in Question 5-15 was for biotechnology?** For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q5-24

Biotechnology – The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services. ___ %

5-25 **What percentage of the amount reported in Question 5-15 was for nanotechnology?** For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/brdshelp.html#q5-25

Nanotechnology – The application of science and technology to organisms, organic and inorganic materials as well as parts, products, and models thereof, at the nanometer-scale (but not exclusively below 1000 nanometers). ___ %

SECTION 5

Domestic R&D performed by your company that was paid for by the U.S. federal government

5-26 **Copy the amount from Question 3-8, line d. This is the domestic R&D performed by your company that was paid for by the U.S. federal government.**

$Bil. Mil. Thou.

5-27 **How much of the amount reported in Question 5-26 was for the following categories?**

$Bil. Mil. Thou.

a. Research–planned, systematic pursuit of new knowledge or understanding . . . . . .

b. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes . . . . . .

c. **Total** (equals Question 5-26) . . . . . .

5-28 **If you reported any research in Question 5-27, line a, how much was for the following categories?**

$Bil. Mil. Thou.

a. Applied research–activities aimed at solving a specific problem or meeting a specific commercial objective . . . . . .

b. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses . . . . . .

c. **Total** (equals Question 5-27, line a) . . . . . .

5-29 **What percentage of the amount reported in Question 5-26 was for software products or software embedded in other projects or products?** %

Characteristics of foreign R&D performed by your company that was paid for by others

5-30 **Copy the amount from Question 3-5, column 2. This is the foreign R&D performed by your company and paid for by others.**

$Bil. Mil. Thou.

5-31 **How much of the amount reported in Question 5-30 was for the following categories?**

$Bil. Mil. Thou.

a. Research–planned, systematic pursuit of new knowledge or understanding . . . . . .

b. Development–systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes . . . . . .

c. **Total** (equals Question 5-30) . . . . . .

SECTION 5

SECTION 6
Human Resources

Who should answer this section?
Persons familiar with human resources concepts and with access to records related to your company's employees should complete this section.

What does this section cover?
This section requests information about your company's employees, focusing on those who worked on R&D activities either full-time or part-time. Include employment data for operations or subsidiaries for which your company owned more than 50 percent.

6-1 **How many employees reported in Question 1-8 were R&D employees and how many were all other employees?**

R&D employees include all employees who work on R&D or who provide direct support to R&D, such as researchers, R&D managers, technicians, clerical staff, and others assigned to R&D groups. **Exclude** employees who provide only indirect support to R&D, such as corporate personnel, security guards, and cafeteria workers.

	(1) Domestic operations	(2) Foreign operations	(3) Total employees
a. R&D employees			
b. All other employees . . .			
c. **Total employees**.			

Total line equals Question 1-8

R&D employees

6-2 **How many of the R&D employees reported in Question 6-1, line a, were female employees and male employees?**

	(1) Domestic operations	(2) Foreign operations	(3) Total R&D employees
a. Female R&D employees			
b. Male R&D employees . .			
c. **Total R&D employees**			

Total line equals Question 6-1, line a

SECTION 6

6-3 **How many of the R&D employees reported in Question 6-1, line a, worked in the occupations listed below?**

	(1) Domestic operations	(2) Foreign operations	(3) Total R&D employees
a. Researchers (including R&D scientists, engineers, and their managers)			
b. R&D technicians and equivalent staff			
c. R&D support staff (clerical and other)			
d. **Total R&D employees**			

Total line equals Question 6-1, line a

6-4 **How many of the researchers reported in Question 6-3, line a, had the following level of education?**

	(1) Domestic Operations	(2) Foreign Operations	(3) Total
PhD (excluding MD, JD, and EdD)			

Domestic full-time equivalents (FTEs)

6-5 **Of the domestic R&D employees reported in Question 6-1, line a, column 1, what was the number of full-time equivalents (FTEs) for R&D activity for full-time R&D employees, other full-time employees not working solely on R&D, and part-time employees?**

	Number
a. FTEs for full-time R&D employees Count the number of full-time employees who work only on R&D	

Example:
50 full-time R&D employees worked only on R&D = 50 FTEs

b. FTEs for other full-time employees not working solely on R&D Use the share of the time they work on R&D to calculate the number of FTEs	

Example:
60 full-time employees averaged one-fourth of their time on R&D = 15 FTEs

c. FTEs for part-time employees working on R&D Use the share of a full-time week (such as 40 hours) that they work on R&D to calculate the FTEs	

Example:
20 part-time employees averaged 20 hours a week on R&D activities = 10 FTEs

d. **Total FTEs**	

Total FTEs should not exceed Question 6-1, line a, column 1.

SECTION 6

6-6 **Of the domestic researchers reported in Question 6-3, line a, column 1, what was the number of full-time equivalents (FTEs) for R&D activity for full-time R&D employees, other full-time employees not working solely on R&D, and part-time employees?**

Number

a. FTEs for full-time researchers

Count the number of full-time employees who work only on R&D. . . . .

Example:
50 full-time R&D scientists worked only on R&D = 50 FTEs

b. FTEs for other full-time researchers not working solely on R&D

Use the share of the time they work on R&D to calculate the number of FTEs . . . . . .

Example:
60 full-time managers averaged one-fourth of their time on R&D = 15 FTEs

c. FTEs for part-time researchers working on R&D

Use the share of a full-time week (such as 40 hours) that they work on R&D to calculate the FTEs. . . . . .

Example:
20 part-time employees averaged 20 hours a week on R&D activities = 10 FTEs

d. **Total FTEs** . . . . . .

Total FTEs should not exceed Question 6-3, line a, column 1.

6-7 **How many of the domestic researchers reported in Question 6-3, line a, column 1, were non-U.S. citizens employed in the United States under a temporary visa, such as H-1B or L-1?**

	(1) Domestic Operations
Researchers employed under a temporary visa	

SECTION 6

SECTION 7
Intellectual Property and Technology Transfer

Who should answer this section?
Persons with an understanding of your company's general business strategy and knowledge of its patenting, licensing, and other activities related to intellectual property should complete this section.

What does this section cover?
This section requests information about your company's worldwide intellectual property and technology transfer activities such as: patents, patent licensing, protection of intellectual property, and transfer of intellectual property.

Are responses to this survey confidential?
Yes. Your responses are completely confidential under Title 13, United States Code, Section 9, and can only be used to produce statistics. The Census Bureau is not permitted to publicly release your responses in a way that could identify your business. The law also provides that copies of reports retained in your files are immune from legal process. In addition, reported data are exempt from requests made under the Freedom of Information Act.

Total patents and utility patents

7-1 **How many total patents did your company apply for in 2017 from the U.S. Patent and Trademark Office (USPTO)?**
Number

7-2 **Of the patent applications reported in Question 7-1, what was the number of nonprovisional utility patent applications?**
Number

7-3 **What percentage of the nonprovisional utility patent applications reported in Question 7-2 has your company applied for or plans to apply for in foreign jurisdictions?**
%

7-4 **What percentage of the nonprovisional utility patent applications reported in Question 7-2 was for inventions that originated within your company's organized R&D activities?**
%

7-5 **What percentage of your company's inventions considered for patenting in 2017 resulted in nonprovisional utility patent applications?**
%

7-6 **How many utility patents were issued to your company in 2017 by the USPTO?**
Number

Utility patent sales and licensing to others

7-7 **How much revenue did your company receive in 2017 from the sale of utility patents?**

$Bil. Mil. Thou.

7-8 **How much revenue did your company receive in 2017 from utility patent licensing?**

$Bil. Mil. Thou.

7-9 **Was any of the revenue reported in Questions 7-7 or 7-8 received from companies or organizations located outside the United States?** ☐ Yes ☐ No

Utility patent purchases and licensing from others

7-10 **How much did your company pay others in 2017 to purchase utility patents?**

$Bil. Mil. Thou.

7-11 **How much did your company pay others in 2017 to license utility patents?**

$Bil. Mil. Thou.

7-12 **Were any of the payments reported in Questions 7-10 or 7-11 made to companies or organizations located outside the United States?** ☐ Yes ☐ No

SECTION 7

Intellectual property transfer activities

7-13 Did your company perform the following activities in 2017?

a. Transferred intellectual property (IP) to others not owned by your company through participation in technical assistance or "know how" agreements	☐ Yes	☐ No
b. Received IP from others not owned by your company through participation in technical assistance or "know how" agreements	☐ Yes	☐ No
c. Transferred IP to a spin-off or spin-out of your company.	☐ Yes	☐ No
d. Received IP from a parent company as part of a spin-off or spin-out.	☐ Yes	☐ No
e. Acquired more than 50% ownership in another company for the primary purpose of acquiring their IP.	☐ Yes	☐ No
f. Acquired any financial interest in another company in order to gain access to their IP	☐ Yes	☐ No
g. Participated in cross-licensing agreements—the agreements in which two or more parties grant a license to each other for the use of the subject matter claimed in one or more of the patents owned by each party.	☐ Yes	☐ No
h. Allowed free use of patents or other IP owned by your company (for example, open source software)	☐ Yes	☐ No
i. Made use of open source patents or other freely available IP not owned by your company	☐ Yes	☐ No

Intellectual property protection

7-14 During 2017, how important to your company were the following types of intellectual property protection?

	Very important	Somewhat important	Not important
a. Utility patents (patents for invention)	☐	☐	☐
b. Design patents (patents for appearance)	☐	☐	☐
c. Trademarks.	☐	☐	☐
d. Copyrights	☐	☐	☐
e. Trade secrets	☐	☐	☐
f. Mask works (copyright protection for semiconductor products)	☐	☐	☐

Research and experimentation tax credit

7-15 Did your company file for the tax credit for increasing research activities (IRS Form 6765) in 2017? ☐ Yes ☐ No

SECTION 7

Business codes

(used in Sections 1, 2, and 3)

Aerospace and Defense

33642 Aircraft engine and engine parts manufacturing
33641 Aircraft manufacturing
33644 Guided missiles, space vehicles, and parts manufacturing
33692 Military armored vehicle, tank, and tank components manufacturing
33452 Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing
33660 Ship and boat building
33643 Other aircraft parts and auxiliary equipment manufacturing

Automobiles, Motorcycles, and Components

33620 Motor vehicle body and trailer manufacturing
33630 Motor vehicle parts manufacturing
33610 Motor vehicles manufacturing
33691 Motorcycle, bicycle, and parts manufacturing
33651 Railroad rolling stock manufacturing
33660 Ship and boat building
33699 All other transportation equipment manufacturing

Capital Equipment

33311 Agricultural machinery and equipment manufacturing
33332 Commercial, service industry, temperature control, and airflow control machinery manufacturing
33312 Construction machinery manufacturing
33500 Electrical equipment, appliances, and components manufacturing
33360 Engine, turbine, and power transmission equipment manufacturing
33322 Industrial machinery manufacturing, except semiconductor machinery
33390 Metalworking and other general purpose machinery manufacturing
33319 Mining, oil, and gas field machinery and equipment manufacturing
33331 Photographic and photocopying equipment manufacturing

Chemicals and Materials

32402 Asphalt paving, roofing, and saturated materials manufacturing
32510 Basic chemicals manufacturing
32790 Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing
32710 Clay and glass products manufacturing
21200 Mining
32592 Paint, adhesive, and other chemical manufacturing
32200 Paper manufacturing
32530 Pesticide, fertilizer, and other agricultural chemical manufacturing
32600 Plastics and rubber products manufacturing
33100 Primary metal manufacturing
32520 Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing
32591 Soap, cleaning compound, and toilet preparations manufacturing
32100 Wood products manufacturing
32403 Other petroleum and coal products manufacturing, including motor oil, hydraulic fluid, and charcoal

Consumer Goods

33333 Digital cameras manufacturing
33430 Audio and video equipment manufacturing
31210 Beverage manufacturing
33200 Fabricated metal products manufacturing
31100 Food manufacturing
33700 Furniture and related products manufacturing
32300 Printing and related support activities
32591 Soap, cleaning compound, and toilet preparations manufacturing
31990 Textile, apparel, and leather products manufacturing
31220 Tobacco manufacturing
33990 Miscellaneous manufacturing not listed elsewhere (games, office supplies, slot machines, etc.)

Energy and Mining

33360 Engine, turbine, and power transmission equipment manufacturing
21200 Mining
33319 Mining, oil, and gas field machinery and equipment manufacturing
21100 Oil and gas extraction
32401 Petroleum refineries
21300 Support activities for mining, including oil and gas

Finance, Insurance, and Real Estate

52200 Finance: banking and credit intermediation
52400 Insurance carriers and related activities
53100 Real estate
52310 Securities, commodity contracts, and other financial investments and related activities (including funds and trusts)

Healthcare

32543 Biotechnology-based pharmaceutical and biological products (except diagnostics)
33451 Electromedical, electrotherapeutic, and irradiation apparatus manufacturing
62200 Hospitals and nursing care facilities
32542 In vitro diagnostic substances manufacturing
62150 Medical and diagnostic laboratories
33910 Medical equipment and supplies manufacturing
62110 Offices of physicians
32541 Pharmaceutical, medicinal, and botanical products manufacturing
54173 Research and development services in biotechnology
54174 Research and development services in physical, engineering, and life sciences (except biotechnology)
62199 Other ambulatory health care services (ambulance, dental, home health care)

Information Technology - Goods and Services

33333 Digital cameras manufacturing
51801 Cloud computing applications and internet based software services
54150 Computer systems design and related services
33412 Computers and peripheral equipment manufacturing, including magnetic and optical media
51800 Data processing, hosting, and related services
33500 Electrical equipment, appliances, and components manufacturing
45411 Electronic shopping and electronic auctions
33459 Measuring and control instruments manufacturing (not listed elsewhere)
33422 Radio, television, and wireless communication equipment manufacturing
33440 Semiconductor and other electronic components manufacturing
33321 Semiconductor machinery manufacturing
51120 Software publishers (except Internet)
33421 Telephone apparatus manufacturing including routers, modems, and gateways
42500 Wholesale electronic markets and agents and brokers (business to business)
33429 Other communication equipment manufacturing (except radio, television, and wireless communication equipment)
51910 Other information services, including Internet publishing, broadcasting, and web search portals

Professional, Scientific, and Technical Services

54180 Advertising and related services
54130 Architectural, engineering, and related services
54150 Computer systems design and related services
54111 Legal, accounting, tax preparation, bookkeeping and payroll services
54160 Management, scientific, and technical consulting services
54190 Professional, scientific, and technical services (not listed elsewhere)
54173 Research and development services in biotechnology
54174 Research and development services in physical, engineering, and life sciences (except biotechnology)
54172 Research and development services in social sciences and humanities
54140 Specialized design services

Telecommunications and Utilities

51500 Broadcasting (except Internet)
51740 Satellite telecommunications
22100 Utilities
56200 Waste management and remediation services
51710 Wired telecommunications carriers
51720 Wireless telecommunications carriers (except satellite)
51790 Other telecommunications (not listed elsewhere)

Other Services

72000 Accommodation and food services
56100 Administrative and support services
71000 Arts, entertainment, and recreation
23000 Construction
49200 Couriers, messengers, and express delivery services
53300 Lessors of nonfinancial intangible assets (including patent licensing)
55100 Management of companies and enterprises
42300 Merchant wholesalers, durable goods
42400 Merchant wholesalers, nondurable goods
51200 Motion picture and sound recording (except Internet)
51110 Newspaper, periodical, book, and directory publishers (except Internet)
53200 Rental and leasing services
44000 Retail trade, except electronic shopping and electronic auctions
62400 Social assistance services
21300 Support activities for mining, including oil and gas
48000 Transportation
49300 Warehousing and storage
81000 Other services (not listed elsewhere)

Is the information reported in this survey reported for the 2017 calendar year?

☐ Yes

☐ No → **Enter time period covered below:**

From (MM) (YYYY) to (MM) (YYYY)

Approximately how long did it take to complete this survey? Hours : Minutes

Remarks (Please use this space below for any explanations that may be essential in understanding your reported data.)

Thank You – Your Response is Important

Accurate and timely statistical information could not be produced without your continued cooperation and goodwill. Thank you.

We estimate this survey will take an average of 3.3 hours to complete, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to:

ERD Survey Comments 0607-0912
U.S. Census Bureau
4600 Silver Hill Road
Room ERD-6H128
Washington, DC 20233

You may email comments to erd.survey.comments@census.gov. Be sure to use "ERD Survey Comments 0607-0912" as the subject.