

option "5" (8 a.m.-4:45 p.m. EST, M-F)

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

FORM

BRDI-1 (09-26-2016) Draft 4

# 2016 BUSINESS R&D AND INNOVATION SURVEY

OMB No. 0607-0912: Approval Expires 12/31/2018

| DUE DATE:   |
|---|
| Report electronically:<br>https://econhelp.census.gov/brdis<br>User ID:                                   |
|   |
| Password:   |
| Reporting electronically allows you to save your work as you go through the form and could save you time. |
| Report by mail: If you report online, please do <b>not</b> mail in the paper form.                        |
| U.S. CENSUS BUREAU<br>1201 East 10th Street<br>Jeffersonville, IN<br>47132-0001                           |
| For information or assistance: • https://econhelp.census.gov/brdis • Call 1-800-772-7851.                 |

**YOUR RESPONSE IS REQUIRED BY LAW.** The survey is conducted under the authority of 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). Title 13, United States Code, Sections 224 and 225 requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau.

(Please correct any errors in this mailing address)

**YOUR RESPONSE IS CONFIDENTIAL BY LAW.** Title 13, United States Code, Section 9 requires that your response be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes. The law also provides that copies retained in your company's files are immune from legal process.

**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 of this page. Without this approval, we could not conduct this survey.

We estimate this survey will take 15 hours, on average, to complete. On the back of this form you will find the full burden estimate statement.

**YOUR RESPONSE IS IMPORTANT.** Better information about R&D and innovation in the U.S. business sector will help leaders make better decisions to strengthen American competitiveness.

The Business R&D and Innovation Survey is a national survey that collects critical information about research and development (R&D) and innovation at businesses operating in the U.S. Policy makers and data users in industry and academia make use of this information for short- and long-term planning.

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

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



### **Table of Contents**

### **Survey Overview and Table of Contents**

The survey is divided into six sections. Each section asks questions about different aspects of R&D or innovation at your company. Due to the specialized nature of each section, it may be necessary to collaborate with colleagues in different departments to answer the questions. The sections are color coded and cover the following topical areas:

| Section 1: Company Information | p.∠ |
|--------------------------------|-----|
|--------------------------------|-----|

Topics: company ownership, business(es), revenues, and innovation

Requires: knowledge of the company's sales and revenues

## 

Topics: R&D expenses and capital expenditures for R&D

Requires: knowledge of your company's accounting concepts and access to financial records

### Section 3: Financial Schedule B.....p.21

Topics: costs for work that was funded, paid for, or reimbursed by others

Requires: knowledge of your company's financial records related to R&D activities

### 

Topics: characteristics of R&D reported in Sections 2 and 3

Requires: familiarity with the technical and strategic aspects of your company's R&D

### 

**Topics:** your company's employees, focusing on those who work on R&D activities **Requires:** familiarity with human resources (HR) concepts and access to HR records

## Section 6: Intellectual Property and Technology Transfer . . . . . . . . . . . . . . . p.44

Topics: intellectual property and technology transfer

Requires: knowledge of your company's general business strategy, patenting, and licensing

### Changes from the 2015 survey

On the basis of extensive conversations with many of the 2015 survey respondents, the 2016 survey has been improved. Sections and questions have been modified to make the concepts presented easier to understand. For a list of specific changes, go to **https://econhelp.census.gov/brdis**.

### Filing electronically

You may submit your survey online via a secure website. Online submission allows you to save the data on secure Census Bureau servers as you go, so you can save, exit, and resume later without losing any of your data. It also allows you to save a paper or electronic copy of your completed survey. To submit online, follow the instructions at <a href="https://econhelp.census.gov/brdis">https://econhelp.census.gov/brdis</a>.

#### **Electronic materials**

Electronic versions of the questionnaire and related documents are available to print or share with others in your company via e-mail. They can be found at https://econhelp.census.gov/brdis.

### You can:

- Print and download copies of the questionnaire in PDF format
- Download Excel worksheets for each section
- Get question-by-question instructions, definitions, and examples that provide clarification
- · Get answers to frequently asked questions, including how the data will be used



### 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 2016, if possible, or for your company's fiscal year ending between April 2016 and March 2017.

### Estimates are acceptable

Please report all items to the best of your ability.

# To speak with a survey specialist, call 1-800-772-7851, option '1' for English, then option '5'.

Survey specialists are available 8 a.m. to 4:45 p.m. EST, M-F to help with any questions you may have.



|     |     | Company Information  |
|-----|-----|--|
|     |     | Company Information  |
| 1-1 | Was | your company a majority-owned subsidiary of a foreign company in 2016?   |
|     |     | Yes → Please provide the following information and then skip to Question 1-3:  |
|     |     | Name of parent company   |
|     |     |  |
|     |     | <b>REPORTING INSTRUCTIONS FOR FOREIGN-OWNED COMPANIES:</b> If you are owned by a foreign parent, the reporting unit for the survey is your U.Slocated 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   |
|     |     |  |
| 1-2 |     | another U.S. company other than a holding company own more than 50 percent ne voting interest in your company during 2016?   |
|     |     | Yes → Please provide the following information:  |
|     |     | Name of parent company   |
|     |     |  |
|     |     |  |
|     |     | EIN of owner (9 digits)  Date parent company purchased your company  (MM) (DD) (YYYY)  |
|     |     | Date parent company purchased  |
|     |     | REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES:  If your company was purchased between April 1, 2016 and December 31, 2016, report only for the period January 1, 2016 to the date of purchase. If your company was purchased before April 1, 2016, 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                 |
|     |     | REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES:  If your company was purchased between April 1, 2016 and December 31, 2016, report only for the period January 1, 2016 to the date of purchase. If your company was purchased before April 1, 2016, 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.         |
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| 1-3 | Did your company own more than 50 percent of any company operations or subsidiaries outside the 50 United States and D.C. during 2016?   |
|-----|--|
|     | ☐ Yes → Include data for these operations/subsidiaries in your survey responses  |
|     | □ No   |
|     |  |
| 1-4 | 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, 2016 and December 31, 2016, report only for the period January 1, 2016 to the date your company ceased operations. If your company ceased operations before April 1, 2016, complete Question 1-6 and return this form to the Census Bureau – you are not required to complete the rest of this survey.                                       |
|     | □ No   |
| 1-5 | Did your company have discontinued operations in 2016?   |
|     | 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   |
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|     | Title  |
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|     | Area code Number Extension   |
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| Business Codes   |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| 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 2016?                           |  |  |  |  |  |  |  |
| <b>NOTE:</b> 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 → Continue with Question 1-8   |  |  |  |  |  |  |  |
| 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   |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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| 1-8  | What was the amou  | nt of your company's w  | orldwide sales an   | d revenues                |
|------|--|---|---------------------|---------------------------|
|      | during 2016?   |   | \$Bil.              |                           |
|      | <ul><li>Include:</li><li>Sales and operating</li></ul>   | revenues from discontinued (  | operations          |                           |
|      |  |   |                     |                           |
| 4.0  |  |   | . 40                |                           |
| 1-9  | from domestic oper   | nount reported in Quest<br>ations?  | tion 1-8 was attrib | utable to or originated   |
|      | <ul><li>Include:</li><li>Sales and operating including foreign sub</li></ul>                                 | revenues to foreign custome<br>osidiaries   | rs,                 |                           |
|      | customers around the v   | cturing Corporation sells part<br>vorld. However, because all i                             | s                   | Mil. Thou.                |
|      | operations are located i<br>of its sales in this quest   | nside the United States it repion.  | orts 100%           |                           |
|      |  |   |                     |                           |
| 1-10 | code listed or amen (1) Worldwide sales  | 016 sales and operating ded in Question 1-7: s and operating revenue and operating revenues | s reported in Que   | stion 1-8                 |
|      | (_, _ = = = = = = = = = = = = = = = = = =  | (1) Worldwide sales   | •                   | (2)<br>Domestic sales and |
|      | Business code (see page 6)   | operating revenu  |                     | operating revenues        |
|      | (see page o)   | эрш. IVIII.   | Tilou. \$511.       | Mill. Triou.              |
|      | a  |   |                     |                           |
|      |  |   |                     |                           |
|      | b  |   |                     |                           |
|      | с.   |   |                     |                           |
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|      |  |   |                     |                           |
|      | g.   | 000 000   |                     | 0 000 000                 |
|      | h.   |   |                     |                           |
|      | i. Less eliminations – the sales and revenues that are eliminated in order to consolidate the business codes |   |                     |                           |
|      | i Total  |   |                     |                           |
|      | j. <b>Total</b>  | Total equals Question   | on 1-8              | Total equals Question 1-9 |
|      |  | rotar equals Questic  | /// 1-0             | Total equals Question 1-3 |

## **Product (good or service) innovation**

A product innovation is the market introduction of a **new** or **significantly** improved good or service with respect to its capabilities, user friendliness, components, or sub-systems.

- Product innovations (new or improved) must be new to your company, but they do not need to be new to your market.
- Product innovations could have been originally developed by your company or by other companies.

| 1-11 | During the three years 2014 to 2016, did your company introduce:  |
|------|---|
|      | a. New or significantly improved goods (Exclude the simple resale of new goods purchased from other companies and changes of a solely aesthetic nature)?                      |
|      | b. New or significantly improved services?  |
| 1-12 | If you answered "yes" to either 1-11, line a, or 1-11, line b, were any of your product   |
| 1-12 | innovations during the three years 2014 to 2016:  |
|      | a. New to your market?  |
|      | Your company introduced a new or significantly improved good or service to your market before your competitors. (It may have been available in other markets.)                |
|      | b. New only to your company?  |
|      | Your company introduced a new or significantly improved good or service that was already available from your competitors in your market.                                      |
| 1-13 | Using the definitions above, please give the percentage of your total   |
|      | sales in 2016 from:   |
|      | a. New or significantly improved goods and services introduced during 2014 to 2016 that were <b>new to your market</b>  |
|      | b. New or significantly improved goods and services introduced during 2014 to 2016 that were <b>new only to your company</b>  |
|      | c. Goods and services that were <b>unchanged or only marginally modified</b> during 2014 to 2016 (include the resale of new goods or services purchased from other companies) |
|      | 1 0 0 %   |
|      | d. Total sales in 2016  |



## **Process innovation**

A process innovation is the implementation of a **new** or **significantly** improved production process, distribution method, or support activity for your goods or services.

- Process innovations must be new to your company, but they do not need to be new to your market.
- The innovation could have been originally developed by your company or by other companies.
- Exclude purely organizational innovations.

| 1-14 | D  | uring the three years 2014 to 2016, did your company introduce:   |     |    |
|------|----|---|-----|----|
|      | a. | New or significantly improved methods of manufacturing or producing goods or services?  | Yes | No |
|      | b. | New or significantly improved logistics, delivery or distribution methods for your inputs, goods, or services?  | Yes | No |
|      | c. | New or significantly improved supporting activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing? | Yes | No |

# Financial Schedule A

### 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 financial information about your company's R&D expenses and capital expenditures for R&D. 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.

| (Countin | es, states, specific location, and for parts of your company defin   | ed by busin | ess code.  |       |
|----------|--|-------------|------------|-------|
| 2-1      | What was the total worldwide R&D expense for your com  | pany in 20  | 16?        |       |
|          | 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 (FASB Statement No. 2, "Accounting for Research and Development Costs.")  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://econhelp.census.gov/brdis.  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 follow  | ing 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 government or private foundation grants   |             | □ Yes      | □ No  |
|          | c. Technical services not an integral part of an R&D project (suc product support provided by R&D employees)   |             | Yes        | □ No  |
|          | d. Bid and proposal costs  |             | □ Yes      | □ No  |
|          | e. Expense your company claimed resulting from the acquisition another company with unfinished R&D projects (in-process R  |             | Yes        | □ No  |
|          | f. Phase IV clinical trials  |             | □ Yes      | □ No  |
| 0.0      | If you are supported the same of the same in Occasion  | \$Bil.      | Mil.       | Thou. |
| 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 total R&D paid for by your company in 2016.   |             |            |       |
| 2-5      | Is the amount entered in Question 2-4 greater than zero?   |             |            |       |
| 20       | Yes → Continue with Question 2-6   |             |            |       |
|          | No → Skip to Question 2-31 on page 20  |             |            |       |
|          | - No / Skip to Question 2-31 on page 20  |             |            |       |

| Indir | ect R&D charges  |           |              |       |
|-------|--|-----------|--------------|-------|
| 2-6   | 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. |
|       | paid for by your company   | -4- f     | b b          |       |
| 2-7   | Of the amount reported in Question 2-4, what were the co code listed or amended on page 6 of this form?  Allocate R&D that is applicable to more than one business code Allocation in proportion to operating revenues is acceptable unless son basis is more appropriate. | on a reas | onable basis | S.    |
|       | Business code (see page 6)   | \$Bil.    | Mil.         | Thou. |
|       | a  |           |              |       |
|       | b  |           |              |       |
|       | c  |           |              |       |
|       | d  |           |              |       |
|       | f  |           |              |       |
|       | g. 0000  |           |              |       |
|       | h. 00000   |           |              |       |
|       | i. <b>Total</b> (equals Question 2-4)  |           |              |       |
| 2-8   | Of the amount reported in Question 2-4, what costs were i company in the following locations?  | incurred  | by your      |       |
|       | a. Domestic United States (50 states and D.C.) [Include R&D performed by domestic operations that is paid for by foreign subsidiaries]   | \$Bil.    | Mil.         | Thou. |
|       | b. All other countries (also, Puerto Rico) [Include R&D performed by foreign subsidiaries that is paid for by domestic operations]   |           |              |       |
|       | c. <b>Total</b> (equals Question 2-4)  |           |              |       |

| 2-9 Copy the amount from Question 2-8, line a. This is the total domestic R&D paid for by your company in 2016.  | \$Bil. Mil. Thou.                          |
|--|--|
| 2-10 Copy the amount from Question 2-8, line b. This is the total foreign R&D paid for by your company in 2016.  | \$Bil. Mil. Thou.                          |
| How much of the (1) domestic, (2) foreign, and (3) total very your company in 2016 was for each of the following type (2)  Domestic (2)  Foreign  Salaries, wages, and fringe benefits |  |
| 00 000 000 00 000 000  |  |
| b. Stock-based compensation  |  |
|  |  |
| c. Leased or temporary staffing, including on-site consultants, working  | on R&D                                     |
|  |  |
| d. Expensed equipment  |  |
| 00 000 000 00 000 000  | 00 000 000                                 |
| e. Materials and supplies  |  |
|  |  |
| f. Leased facilities and equipment   |  |
|  |  |
| g. Depreciation and amortization on R&D property and equipment   |  |
|  |  |
| h. Royalties and licensing fees (including payments made to others for the use oproperty used in your company's R&D)   | of patents and other forms of intellectual |
|  |  |
| i. Payments to business partners for collaborative R&D   |  |
|  | 00 000 000                                 |
| j. Purchased R&D services (if your company is foreign-owned, include paym  | ents to your foreign owner for R&D)        |
|  | 00 000 000                                 |
| Question continues on next page  |  |

| 044 40 41 11  |  |  |  |                   |
|---|--|--|--|-------------------|
| 2-11 (Continued)  |  |  |  |                   |
| (1)<br>Domestic   | (2)<br>Foreign   |  | (3)<br>Total worldwide   |                   |
| \$Bil. Mil. Thou.   | \$Bil. Mil. Th   | ou. \$Bil.   | Mil. <u>T</u>  | <u>Γhou.</u>      |
| k. All other purchased services excep   | t R&D  |  |  |                   |
|   |  |  |  |                   |
|   |  |  |  |                   |
| I. All other costs (including administrative  | and overhead costs clearly acc   | noisted with you   | company's PSD  |                   |
| i. All other costs (including administrative  | and overnead costs clearly ass   | ociated with you   | company s not  |                   |
|   |  |  |  |                   |
| m. Total  |  |  |  |                   |
| m. Iotai  |  |  |  |                   |
|   |  |  |  |                   |
| T. / / O ii oo  | T. / / 0 / 0   | 10 T   |  | 0.1               |
| Total equals Question 2-9   | Total equals Question 2-   | 10 10  | tal equals Question  | 2-4               |
| 2-12 Add 2-11, lines i and j for e  |  | he result here   |  |                   |
| This is R&D performed by  |  |  |  |                   |
| (1)<br>Domestic   | (2)<br>Foreign   |  | (3)<br>Total worldwide   |                   |
| \$Bil. Mil. Thou.   | \$Bil. Mil. The  | ou. \$Bil.   | Mil. T   | hou.              |
|   |  |  |  |                   |
|   |  |  |  |                   |
| _   |  |  |  |                   |
| 0 40 0 0 0 4 0 40 40 40 40 44 15  |  |  | and a state of the |                   |
| 2-13 Subtract 2-12 from 2-11, li  |  | nd enter the r   | esult here.  |                   |
| This is R&D performed by (1)  | <u>our company</u> .<br>(2)  | nd enter the r   | (3)  |                   |
| This is R&D performed by y  (1)  Domestic   | our company.   |  | (3)<br>Total worldwide   | <sup>-</sup> hou. |
| This is R&D performed by (1) Domestic   | <u>/our company</u> .<br>(2)<br>Foreign  |  | (3)<br>Total worldwide   | <sup>-</sup> hou. |
| This is R&D performed by y  (1)  Domestic   | <u>/our company</u> .<br>(2)<br>Foreign  |  | (3)<br>Total worldwide   | -hou.             |
| This is R&D performed by y  (1)  Domestic   | <u>/our company</u> .<br>(2)<br>Foreign  |  | (3)<br>Total worldwide<br>Mil. T   |                   |
| This is R&D performed by v  (1)  Domestic  \$Bil. Mil. Thou.  | your company. (2) Foreign \$Bil. Mil. The  |  | (3)<br>Total worldwide<br>Mil. T   | hou.              |
| This is R&D performed by v  (1)  Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pai   | your company. (2) Foreign \$Bil. Mil. The  | ou. \$Bil.   | (3) Total worldwide Mil. T   |                   |
| This is R&D performed by value (1)  Domestic Shil. Mil. Thou.  2-14 Copy the amount from Que  | your company. (2) Foreign \$Bil. Mil. The  | ou. \$Bil.   | (3) Total worldwide Mil. T   |                   |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  | estion 2-13, column 2.   | spil.  | (3) Total worldwide Mil. T   | Thou.             |
| This is R&D performed by v  (1)  Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pai   | estion 2-13, column 2. d for and performed by  | spil. \$Bil. \$Bil.  h R&D was po                                      | (3) Total worldwide Mil.  Mil.  T  | Thou.             |
| This is R&D performed by value (1) Domestic \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in   | estion 2-13, column 2. d for and performed by  | spil. \$Bil. \$Bil.  h R&D was po                                      | (3) Total worldwide Mil. T  Mil. T   | Thou.             |
| This is R&D performed by variable (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.          | estion 2-13, column 2. d for and performed by  Question 2-14, how much of countries in each region see Question Thou.  | \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.                 | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list                         | your company.  (2) Foreign  \$Bil. Mil. The stion 2-13, column 2. Id for and performed by  Question 2-14, how muck of countries in each region see Question  | \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.                 | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Quenthis is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.  Canada     | estion 2-13, column 2. d for and performed by  Question 2-14, how much of countries in each region see Question Thou.  Belgium   | \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.                         | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by variable (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.          | estion 2-13, column 2. d for and performed by  Question 2-14, how much of countries in each region see Question Thou.  | \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.  \$Bil.                         | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Quenthis is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.  Canada     | cestion 2-13, column 2. d for and performed by  Cuestion 2-14, how much of countries in each region see Question Thou.  Belgium  Czech Rep.  | \$Bil.  \$Bil.  \$Bil.  h R&D was pondo by Question Guidance \$Bil.    | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Quenthis is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.  Canada     | estion 2-13, column 2. d for and performed by  Question 2-14, how much of countries in each region see Question Thou.  Belgium   | \$Bil.  \$Bil.  \$Bil.  h R&D was pondo by Question Guidance \$Bil.    | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by value (1) Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Quenthis is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.  Canada     | your company.  (2) Foreign  \$Bil. Mil. The stion 2-13, column 2. Id for and performed by  Question 2-14, how much of countries in each region see Question Thou.  Belgium  Czech Rep.  Thou.  Denmark | \$Bil.  \$Bil.  \$Bil.  th R&D was portion by Question Guidance \$Bil. | (3) Total worldwide Mil. T  Mil. T   | hou.              |
| This is R&D performed by variable (1)  Domestic  \$Bil. Mil. Thou.  2-14 Copy the amount from Que This is the foreign R&D pair your company in 2016.  2-15 Of the amount reported in following locations? For full list \$Bil. Mil.  Canada | cestion 2-13, column 2. d for and performed by  Cuestion 2-14, how much of countries in each region see Question Thou.  Belgium  Czech Rep.  | \$Bil.  \$Bil.  \$Bil.  th R&D was portion by Question Guidance \$Bil. | (3) Total worldwide Mil. T  Mil. T   | hou.              |

| 2-15 (Continue                                | <b>d)</b><br>\$Bil. | Mil. | Thou.        |                            | \$Bil. | Mil. | Thou. |
|---|---------------------|------|--------------|----------------------------|--------|------|-------|
| France  |                     |      |              | Mexico                     |        |      |       |
| Germany                                       |                     |      |              | Other Latin<br>America/OWH |        |      |       |
| Hungary                                       |                     |      |              | Asia and Pacific           | \$Bil. | Mil. | Thou. |
| Ireland                                       |                     |      |              | Australia                  |        |      |       |
| ltaly   |                     |      |              | China                      |        |      |       |
| Luxembourg                                    |                     |      |              | Hong Kong                  |        |      |       |
| Netherlands                                   |                     |      |              | India                      |        |      |       |
| Norway  |                     |      |              | Indonesia                  |        |      |       |
| Poland  |                     |      |              | Japan                      |        |      |       |
| Russia  |                     |      |              | Malaysia                   |        |      |       |
| Spain   |                     |      |              | New Zealand                |        |      |       |
| Sweden  |                     |      |              | Singapore                  |        |      |       |
| Switzerland                                   |                     |      |              | South Korea                |        |      |       |
| Turkey  |                     |      |              | Taiwan                     |        |      |       |
| United<br>Kingdom                             |                     |      |              | Thailand                   |        |      |       |
| Other<br>Europe                               |                     |      |              | Other Asia/<br>Pacific     |        |      |       |
| Latin America/<br>Other Western<br>Hemisphere | \$Bil.              | Mil. | Thou.        | Middle East                | \$Bil. | Mil. | Thou. |
| Argentina                                     |                     |      |              | Israel                     |        |      |       |
| Brazil  |                     |      |              | Other<br>Middle East       |        |      |       |
| Chile   |                     |      |              |                            |        |      |       |
|   |                     | Qu   | estion conti | nues on next page          |        |      |       |

| 2-15 (Continue           | d)                        |                   |              |                                     |          |           |       |
|--------------------------|---------------------------|-------------------|--------------|-------------------------------------|----------|-----------|-------|
| Africa                   | \$Bil.                    | Mil.              | Thou.        |                                     | \$Bil.   | Mil.      | Thou. |
| South Africa             |                           |                   |              | <b>Total</b> (equals Question 2-14) |          |           |       |
| Other Africa             |                           |                   |              |                                     |          |           |       |
|                          | domestic                  | R&D pai           | tion 2-13, o | column 1.<br><u>performed</u>       | \$Bil.   | Mil.      | Thou. |
| 2-17 How much (including | n of the ar<br>D.C.) in 2 | nount rep<br>016? | oorted in C  | Question 2-16 was p                 | erformed | l in each | state |
|                          | \$Bil.                    | Mil.              | Thou.        |                                     | \$Bil.   | Mil.      | Thou. |
| Alabama                  |                           |                   |              | Indiana                             |          |           |       |
| Alaska                   |                           |                   |              | lowa                                |          |           |       |
| Arizona                  |                           |                   |              | Kansas                              |          |           |       |
| Arkansas                 |                           |                   |              | Kentucky                            |          |           |       |
| California               |                           |                   |              | Louisiana                           |          |           |       |
| Colorado                 |                           |                   |              | Maine                               |          |           |       |
| Connecticut              |                           |                   |              | Maryland                            |          |           |       |
| Delaware                 |                           |                   |              | Massachusetts                       |          |           |       |
| District of Columbia     |                           |                   |              | Michigan                            |          |           |       |
| Florida                  |                           |                   |              | Minnesota                           |          |           |       |
| Georgia                  |                           |                   |              | Mississippi                         |          |           |       |
| Hawaii                   |                           |                   |              | Missouri                            |          |           |       |
| Idaho                    |                           |                   |              | Montana                             |          |           |       |
| Illinois                 |                           |                   |              | Nebraska                            |          |           |       |
|                          |                           | Que               | stion conti  | nues on next page                   |          |           |       |

| 2-17 (Continue         | d)                  |              |             |                                     |             |           |         |
|------------------------|---------------------|--------------|-------------|-------------------------------------|-------------|-----------|---------|
|                        | \$Bil.              | Mil.         | Thou.       | l                                   | \$Bil.      | Mil.      | Thou.   |
| Nevada                 |                     |              |             | South Carolina                      |             |           |         |
| New Hampshire          |                     |              |             | South Dakota                        |             |           |         |
| New Jersey             |                     |              |             | Tennessee                           |             |           |         |
| New Mexico             |                     |              |             | Texas                               |             |           |         |
| New York               |                     |              |             | Utah                                |             |           |         |
| North Carolina         |                     |              |             | Vermont                             |             |           |         |
| North Dakota           |                     |              |             | Virginia                            |             |           |         |
| Ohio                   |                     |              |             | Washington                          |             |           |         |
| Oklahoma               |                     |              |             | West Virginia                       |             |           |         |
| Oregon                 |                     |              |             | Wisconsin                           |             |           |         |
| Pennsylvania           |                     |              |             | Wyoming                             |             |           |         |
| Rhode Island           |                     |              |             | <b>Total</b> (equals Question 2-16) |             |           |         |
| 2-18 At what d         | omestic             | c location o | did your co | mpany perform the                   | e largest d | ollar amo | ount of |
| Address 1              | 10:                 |              |             |                                     |             |           |         |
|                        |                     |              |             |                                     |             |           |         |
| Address 2              |                     |              |             |                                     |             |           |         |
|                        |                     |              |             |                                     |             |           |         |
| City                   |                     |              |             |                                     | State       | ZIP       |         |
|                        |                     |              |             |                                     |             |           |         |
| 2-19 How much was from | n of the<br>the loc | amount re    | ported in ( | Question 2-16 estion 2-18?          | \$Bil.      | Mil.      | Thou.   |
|                        |                     |              |             |                                     |             |           |         |

| tate ZII    |   |
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| tate ZII    |   |
| tate ZII    |   |
| tate ZII    |   |
| tate ZI     |   |
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| NA:I        | Tho   |
| IVIII.      | THE   |
|             |   |
|             |   |
| omestic R&I | ) performe                                    |
|             | <b>ompany</b><br>Tho                          |
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|             |   |
|             | Mil.  Question 2  (1)  pmestic R&E by your co |



| R&D transactions between legal entities under comm  | on owi | nership |       |
|---|--------|---------|-------|
| 2-23 How much of the amount reported in Question 2-16 (dom paid for by your company's foreign subsidiaries through it   |        |         |       |
| <b>Example:</b> Company Y owns a subsidiary in France. In order to complete the development of a product in 2016, 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. |
| How much of the amount reported in Question 2-14 (fore paid for by your company's domestic operations through   |        |         |       |
| <b>Example:</b> Company Z owns a subsidiary in France. In order to complete the development of a product in 2016, 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   |        |         |       |
| 2-25 Copy the amount from Question 2-12, column 1.  This is the domestic R&D paid for by your company in 2016 that was performed by others.   | \$Bil. | Mil.    | Thou. |
| 2-26 How much of the amount reported in Question 2-25, was performed by the following types of organizations?   | \$Bil. | Mil.    | Thou. |
| a. Companies located <u>inside</u> the United States  |        |         |       |
| b. Your company's foreign parent (if you are owned by a   |        |         |       |
| foreign parent)   |        |         |       |
|   |        |         |       |
| foreign parent)   |        |         |       |
| c. Other companies located <u>outside</u> the United States   |        |         |       |
| c. Other companies located <u>outside</u> the United States   |        |         |       |
| c. Other companies located <u>outside</u> the United States   |        |         |       |
| c. Other companies located <u>outside</u> the United States   |        |         |       |

| Activities with academia   |                               |
|--|-------------------------------|
| 2-27 In addition to the amount reported in Question 2-26, line for monetary gifts to U.S. universities or colleges in 2016 that                          |                               |
| Yes → Continue with Question 2-28  |                               |
| No → Skip to Question 2-29   |                               |
| 2-28 What was the amount of monetary gifts made by your company to U.S. universities or colleges in 2016 that was for R&D?                               | \$Bil. Mil. Thou.             |
| Projected R&D for 2017   |                               |
| 2-29 What are your company's projected 2017 costs for (1) don (3) total worldwide R&D paid for by your company?  | nestic, (2) foreign, and      |
| NOTE: These amounts are the 2017 projections for the an reported in Question 2-11, line m.   | nounts                        |
| (1) (2) Domestic Foreign   | (3) Total worldwide           |
|  | \$Bil. Mil. Thou.             |
| \$Bil. Mil. Thou. \$Bil. Mil. Thou.  |                               |
| <u>00 000 000 000 000 000 000 000 000 000</u>  | Pomostio                      |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services   | Domestic<br>\$Bil. Mil. Thou. |
| 2-30 How much of the amount reported in Question 2-29,   |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |
| 2-30 How much of the amount reported in Question 2-29, column 1, is for projected purchased R&D services and projected payments to business partners for |                               |

| Capital expenditures   |          |       |       |
|--|----------|-------|-------|
| 2-31 What was the amount of your company's capital expenditures in the domestic United States in 2016? | \$Bil.   | Mil.  | Thou. |
| 2-32 How much of the amount reported in Question 2-31 was for R&D operations?                          | \$Bil.   | Mil.  | Thou. |
| 2-33 How much of the amount reported in Question 2-32 was for the following?  a. Structures            | \$Bil.   | Mil.  | Thou. |
| b. Equipment   |          |       |       |
| c. Capitalized software  |          |       |       |
| Reporting information  2-34 Is the information in this section reported for the 2016 ca                | lendar v | /ear? |       |
| Yes No → Enter time period covered below: (MM) (YYYY) (MM) (YYYY)                                      | YY)      |       |       |
| From to  |          |       |       |
|  |          |       |       |



# **Financial Schedule B**

#### 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 financial information about your company's costs for work that was funded, paid for, or reimbursed by others. This section requests information about these costs 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.

| fo | hat were your company's <u>total worldwide costs</u> (both direct and indirect) in 2016 or the following that were funded, paid for, or reimbursed by others not owned by our company?   |        |      |       |  |  |  |  |  |  |  |  |  |
|----|--|--------|------|-------|--|--|--|--|--|--|--|--|--|
| •  | <b>xclude:</b> Costs that were paid for by your company, such as those reported ir Payments in excess of the actual cost of the work performed (such a   |        |      |       |  |  |  |  |  |  |  |  |  |
|    |  | \$Bil. | Mil. | Thou. |  |  |  |  |  |  |  |  |  |
| a. | R&D that was reimbursed by your company's foreign parent (if you are owned by a foreign parent)  |        |      |       |  |  |  |  |  |  |  |  |  |
| b. | Collaborative R&D that was reimbursed by business partners, such as through cost-sharing agreements  |        |      |       |  |  |  |  |  |  |  |  |  |
|    | R&D paid for by government or private foundation grants  |        |      |       |  |  |  |  |  |  |  |  |  |
| d. | Defense R&D goods or services provided as a prime or as a sub, to the government and/or government contractors   |        |      |       |  |  |  |  |  |  |  |  |  |
|    | <ul> <li>Exclude:</li> <li>Costs for projects that have achieved technical feasibility, such as low-rate initial production. Additional guidance is available online at https://econhelp.census.gov/brdis.</li> </ul>                      |        |      |       |  |  |  |  |  |  |  |  |  |
| e. | Medical nonclinical R&D services provided to others not owned by your company  |        |      |       |  |  |  |  |  |  |  |  |  |
| f. | Medical clinical trial Phase I-III services provided to others not owned by your company (include pass-through costs)  |        |      |       |  |  |  |  |  |  |  |  |  |
| g. | Nondefense custom software development and/or computer systems designed for others not owned by your company   |        |      |       |  |  |  |  |  |  |  |  |  |
|    | <ul> <li>Exclude:</li> <li>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</li> </ul> |        |      |       |  |  |  |  |  |  |  |  |  |
| 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, not included above, provided to the Federal Government or to others not owned by your company  |        |      |       |  |  |  |  |  |  |  |  |  |
| j. | Total  |        |      |       |  |  |  |  |  |  |  |  |  |



| 3-2 | Copy the amount from Question 3-1, line j. This is the total R&D paid for by others in 2016.                                      | \$Bil.             | Mil.                | Thou. |
|-----|---|--------------------|---------------------|-------|
| 3-3 | Is the amount entered in Question 3-2 greater than zero?  ☐ Yes → Continue with Question 3-4  ☐ No → Skip to Section 4 on page 35 |                    |                     |       |
| R&D | paid for by others  |                    |                     |       |
| 3-4 | Of the amount reported in Question 3-2, what costs were company in the following locations?                                       | incurred<br>\$Bil. | <b>by your</b> Mil. | Thou. |
|     | a. Domestic United States (50 states and D.C.)  |                    |                     |       |
|     | b. All other countries (also, Puerto Rico)  |                    |                     |       |
|     | c. <b>Total</b> (equals Question 3-2)   |                    |                     |       |
| 3-5 | Copy the amount from Question 3-4, line a. This is the total domestic R&D paid for by others in 2016.                             | \$Bil.             | Mil.                | Thou. |
| 3-6 | Copy the amount from Question 3-4, line b. This is the total foreign R&D paid for by others in 2016.                              | \$Bil.             | Mil.                | Thou. |
|     |   |                    |                     |       |
|     |   |                    |                     |       |
|     |   |                    |                     |       |
|     |   |                    |                     |       |
|     |   |                    |                     |       |
|     |   |                    |                     |       |
|     |   |                    |                     |       |

|                        | ow much of there in 2016            |                                  |               |                        |                 |              | le R&D paid for by             |
|------------------------|-------------------------------------|----------------------------------|---------------|------------------------|-----------------|--------------|--------------------------------|
| \$Bil.                 | (1) Domestic                        | <u>Thou.</u>                     | <u>\$Bil.</u> | (2)<br>Foreign<br>Mil. | Thou.           | \$Bil.       | (3) Total worldwide Mil. Thou. |
| a. Salarie             | s, wages, and                       | rringe benefits                  |               |                        |                 |              |                                |
| b. Stock-h             | pased compens                       | ation                            |               |                        |                 |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| c. Leased              | or temporary                        | staffing, includ                 | ing on-site   | consultan              | ts, working     | on R&D       |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| d. Expens              | ed equipment                        |                                  |               |                        |                 |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| e. Materia             | als and supplie                     | S                                |               |                        |                 |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| f. Leased              | facilities and e                    | equipment                        |               |                        | ı               |              | ı                              |
|                        |                                     |                                  |               |                        |                 |              |                                |
| g. Depred              | iation and amo                      | ortization on R                  | &D propert    | y and equi             | pment           |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| h. Royalti<br>property | es and licensin<br>used in your com | g fees (including<br>pany's R&D) | j payments m  | ade to others          | s for the use o | of patents a | nd other forms of intellectual |
|                        |                                     |                                  |               |                        |                 |              |                                |
| i. Payme               | nts to business                     | partners for c                   | ollaborativ   | e R&D                  |                 |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| j. Purcha              | sed R&D servi                       | ces (if your comp                | pany is forei | gn-owned, ir           | ıclude payme    | ents to you  | r foreign owner for R&D)       |
|                        |                                     |                                  |               |                        |                 |              |                                |
| k. All oth             | er purchased s                      | ervices except                   | R&D           |                        |                 |              |                                |
|                        |                                     |                                  |               |                        |                 |              |                                |
| I. All oth             | er costs (includir                  | ng administrative a              | and overhead  | costs clearly          | , associated    | with your    | company's R&D)                 |
|                        |                                     |                                  |               |                        |                 |              |                                |
|                        |                                     | Qu                               | estion con    | tinues on n            | ext page        |              |                                |

| 3-7 (Continue  | ed)                     |                                 |         |                               |                   |               |                                    |                              |  |  |
|--|-------------------------|---------------------------------|---------|-------------------------------|-------------------|---------------|------------------------------------|------------------------------|--|--|
|  | (1)<br>omestic<br>/lil. | Thou.                           | \$Bil.  | (2)<br>Foreign<br><u>Mil.</u> | <u>Thou.</u>      | <u>\$Bil.</u> | (3)<br>Fotal worldv<br><u>Mil.</u> | wide<br><u>Thou.</u>         |  |  |
| 80 8   |                         |                                 |         |                               |                   |               |                                    |                              |  |  |
| Total equa   | als Questic             | on 3-5                          | Total e | quals Ques                    | tion 3-6          | Tota          | l equals Qu                        | estion 3-2                   |  |  |
| Add 3-7, 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) (2) (3) |                         |                                 |         |                               |                   |               |                                    |                              |  |  |
|  | omestic                 | Thou.                           | \$Bil.  | Foreign<br>Mil.               | Thou.             | \$Bil.        | Fotal world<br>Mil.                | <b>vide</b><br>Thou.         |  |  |
|  |                         |                                 |         |                               |                   |               |                                    |                              |  |  |
|  | kD perfo                |                                 |         | any that                      | and enter         |               |                                    |                              |  |  |
|  | (1)<br>omestic<br>Iil.  | Thou.                           | \$Bil.  | (2)<br>Foreign<br>Mil.        | Thou.             | \$Bil.        | (3)<br>Fotal world:<br>Mil.        | wide<br>Thou.                |  |  |
| 00 0   |                         |                                 |         |                               |                   |               |                                    |                              |  |  |
|  |                         |                                 |         |                               |                   | \$Bil.        | Mil.                               | Thou.                        |  |  |
|  | eign R&l                | from Que<br>D perform<br>thers. |         |                               |                   |               |                                    |                              |  |  |
|  |                         |                                 |         |                               | much R&D          |               |                                    |                              |  |  |
| lollowing  | \$Bil.                  | Mil.                            | Thou.   | ach region see (              | Question by Quest | \$Bil.        | Mil.                               | o.census.gov/brdis.<br>Thou. |  |  |
| Canada   |                         |                                 |         |                               | e                 |               |                                    |                              |  |  |
| Puerto Rico  |                         |                                 |         | Germ                          | any               |               |                                    |                              |  |  |
| Europe   | \$Bil.                  | Mil.                            | Thou.   | Hung                          | ary               |               |                                    |                              |  |  |
| Austria  |                         |                                 |         | Hully                         | ary               |               |                                    |                              |  |  |
| Belgium  |                         |                                 |         | Irelan                        | d                 |               |                                    |                              |  |  |
| Czech Rep  |                         |                                 |         | Italy.                        |                   |               |                                    |                              |  |  |
| Denmark  |                         |                                 |         | Luxer                         | nbourg            |               |                                    |                              |  |  |
| Finland  |                         |                                 |         | Nethe                         | erlands           |               |                                    |                              |  |  |
| Fillialiu  |                         |                                 |         |                               |                   |               |                                    |                              |  |  |

| 3-11 (Continue                                | <b>d)</b><br>\$Bil.   | Mil. | Thou. | ı                                   | \$Bil. | Mil. | Thou. |  |  |
|---|---|------|-------|-------------------------------------|--------|------|-------|--|--|
| Norway  |   |      |       | Hong Kong                           |        |      |       |  |  |
| Poland  |   |      |       | India                               |        |      |       |  |  |
| Russia  |   |      |       | Indonesia                           |        |      |       |  |  |
| Spain   |   |      |       | Japan                               |        |      |       |  |  |
| Sweden  |   |      |       | Malaysia                            |        |      |       |  |  |
| Switzerland                                   |   |      |       | New Zealand                         |        |      |       |  |  |
| Turkey  |   |      |       | Singapore                           |        |      |       |  |  |
| United<br>Kingdom                             |   |      |       | South Korea                         |        |      |       |  |  |
| Other<br>Europe                               |   |      |       | Taiwan                              |        |      |       |  |  |
| Latin America/<br>Other Western<br>Hemisphere | \$Bil.  | Mil. | Thou. | Thailand                            |        |      |       |  |  |
| Argentina                                     |   |      |       | Other Asia/<br>Pacific              |        |      |       |  |  |
| Brazil  |   |      |       | Middle East                         | \$Bil. | Mil. | Thou. |  |  |
| Chile   |   |      |       | Israel                              |        |      |       |  |  |
| Mexico  |   |      |       | Other<br>Middle East                |        |      |       |  |  |
| Other Latin<br>America/OWH                    |   |      |       | Africa South Africa                 | \$Bil. | Mil. | Thou. |  |  |
| Asia and Pacific                              | \$Bil.  | Mil. | Thou. | l                                   |        |      |       |  |  |
| Australia                                     |   |      |       | Other Africa                        |        |      |       |  |  |
| China   |   |      |       | <b>Total</b> (equals Question 3-10) |        |      |       |  |  |
| This is the                                   | 3-12 Copy the amount from Question 3-9, column 1.  This is the domestic R&D performed by your company that was paid for by others.  \$Bil. Mil. Thou. |      |       |                                     |        |      |       |  |  |
|   |   |      |       |                                     |        |      |       |  |  |

| Al        | llocate R&D that is location in proportion in proportion is is more appropr                      | on to operating                   |                     |                |          |         |               |             |
|-----------|--|-----------------------------------|---------------------|----------------|----------|---------|---------------|-------------|
|           | Business code<br>(see page 6)  |                                   |                     |                |          | \$Bil.  | Mil.          | Thou        |
| a.        |  |                                   |                     |                |          |         |               |             |
|           |  | -                                 |                     |                | _        |         |               |             |
| b.        |  |                                   |                     |                |          |         |               |             |
| С.        |  |                                   |                     |                |          |         |               |             |
| d.        |  |                                   |                     |                |          |         |               |             |
| e.        |  |                                   |                     |                |          |         |               |             |
|           |  |                                   |                     |                |          |         |               |             |
| f.        |  |                                   |                     |                |          |         |               |             |
| g.        |  |                                   |                     |                |          |         |               |             |
| h.        |  |                                   |                     |                |          |         |               |             |
|           | Total (aguala Que  | notion 2 12\                      |                     |                |          |         |               |             |
| i.        | Total (equals Que  | estion 3-12)                      |                     |                |          |         |               |             |
|           | w much of the a  | amount repo                       | orted in Que        | estion 3-12    | was pa   | id for  | by each o     | f the       |
|           | your company is a  | a subcontract                     | or or subgra        | ntee, report   | the orig | inal so | urce of fun   | ds.         |
| a :<br>fo | <b>cample:</b> Company S<br>subcontractor on a c<br>r the defense compa<br>as the original sourc | contract with thany, it reports t | ne U.S. Dept. o     | of Defense. Ev | en thoug | h Sub I | nc. is workir | ng directly |
|           |  |                                   |                     |                |          | \$Bil.  | Mil.          | Thou        |
| a.        | Other companies  | located <u>insid</u>              | e the United        | States         |          |         |               |             |
| b.        | Your company's f<br>foreign parent)  |                                   |                     |                |          |         |               |             |
| C.        | Other companies  | located <u>outsi</u>              | <u>de</u> the Unite | d States       |          |         |               |             |
|           |  |                                   |                     |                |          |         |               |             |

| 3-14 (0  | onti  | inue    | ed)   |             |            |   |              |             |       |
|----------|---|---------|-------|-------------|------------|---|--------------|-------------|-------|
|          |   |         |       |             |            |   |              | Mil.        | Thou. |
| e.       | e. U.S. state government agencies or laboratories |         |       |             |            |   |              |             |       |
| f.       |   |         |       |             |            | les, and academic researchers (including tors) located <u>inside</u> the United States                |              |             |       |
| ~        | Λ 11  | o t b . |       | <b>#</b> ~~ | n:=04      | iona incida tha Unitad Ctataa   |              |             |       |
| g        | AII   | Otne    | er o  | rga         | mzai       | ions <u>inside</u> the United States  |              |             |       |
| h        | All   | othe    | er o  | rga         | nizat      | ions outside the United States  |              |             |       |
| i.       | Tot   | tal (   | equ   | als         | Que        | stion 3-12)   |              |             |       |
|          |   |         |       |             |            |   | ¢D:I         | N.4:1       | Th    |
|          |   |         |       |             |            | lines a, b, and c, and enter the the R&D that was paid for by   | \$Bil.       | Mil.        | Thou. |
| <u>o</u> | <u>ther</u>                                       | cor     | npa   | nie         | <u>s</u> . |   |              |             |       |
| 3-16 U   | sing  | the     | e lis | t o         | f bu       | siness codes printed below, allocate th   | ne amou      | ınt reporte | ed in |
| 0        | uest  | ion     | 3-1   | 5 k         | ase        | d on the industries of the companies the distribution of the codes from pages 46-47 in the companies. | hat paid     | for the R   | &D.   |
|          | E   | Busir   | ıess  | cod         | le         | Description   | <b>4</b> D'' |             |       |
|          | 7   | 2       | _     | "           | 3          | Biotechnology-based pharmaceutical and biological products (except                                    | \$Bil.       | Mil.        | Thou. |
| a        | 3   | 2       | 3     | 4           | 3          | diagnostics)  |              |             |       |
| b        | 3   | 2       | 5     | 4           | 1          | Pharmaceutical, medicinal, and botanical products manufacturing                                       |              |             |       |
| C.       | 3   | 3       | 5     | 0           | 0          | Electrical equipment, appliances, and components manufacturing  |              |             |       |
|          | 2   | 2       | 71    | ,,          |            | Semiconductor and other electronic  |              |             |       |
| d        | 3   | 3       | 4     | 7           | 0          | components manufacturing  |              |             |       |
| e.       | 3   | 3       | 9     | 1           | 0          | Medical equipment and supplies manufacturing  |              |             |       |
| f.       | 3   | 3       | 6     | 1           | 0          | Motor vehicles manufacturing  |              |             |       |
|          |   |         |       |             |            | Weter venicios manadetaring   |              |             |       |
| g        |   |         |       |             |            |   |              |             |       |
| h        |   |         |       |             |            |   |              |             |       |
| i.       |   |         |       |             |            |   |              |             |       |
| 1.       |   |         |       |             |            |   |              |             |       |
| j.       | То  | tal     | (eqı  | ıals        | Que        | estion 3-15)  |              |             |       |
|          |   |         |       |             |            |   |              |             |       |

| 3-17 Copy the amount from Question 3-14, line d. This is domestic R&D performed by your company that was paid for by the U.S. federal government.                     | \$Bil.                | Mil.      | Thou. |
|---|-----------------------|-----------|-------|
| 3-18 How much of the amount reported in Question 3-17 was for by the following agencies?  | <b>paid</b><br>\$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. <b>Total</b> (equals Question 3-17)  |                       |           |       |
| 3-19 How much of the amount reported in Question 3-17 was following types of agreements?  | performe              | d under t | he    |
|   | \$Bil.                | Mil.      | Thou. |
| a. Contracts (include direct or prime contracts and subcontracts)   |                       |           |       |
| b. Grants, reimbursements, and all other agreements   |                       |           |       |
| c. <b>Total</b> (equals Question 3-17)  |                       |           |       |
| 3-20 Subtract Question 3-17 from Question 3-12 and enter the result here. This is the domestic R&D performed by your company that was paid for by nonfederal sources. | \$Bil.                | Mil.      | Thou. |

| 3-21 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 3-17 (2) Domestic R&D paid for by nonfederal sources reported in Question 3-20 (3) Total domestic R&D performed by your company that was paid for by others reported in Question 3-12 |                                 |       |               |                  |       |               |              |              |
|---|---------------------------------|-------|---------------|------------------|-------|---------------|--------------|--------------|
|   | (1)<br>Federal                  |       |               | (2)<br>Nonfedera | ı     |               | (3)<br>Total |              |
|   | Mil.                            | Thou. | <u>\$Bil.</u> | Mil.             | Thou. | <u>\$Bil.</u> | Mil.         | <u>Thou.</u> |
| Alabama   |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Alaska  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Arizona   |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Arkansas  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| California  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Colorado  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Connecticut   |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Delaware  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| District of Columb  | bia                             |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Florida   |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Georgia   |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
| Hawaii  |                                 |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |
|   | Question continues on next page |       |               |                  |       |               |              |              |
|   |                                 |       |               |                  |       |               |              |              |

| 3-21 (Continued) (1) Federal |       |            | (2)<br>Nonfederal  |          |        | (3)<br>Total  |       |
|------------------------------|-------|------------|--------------------|----------|--------|---------------|-------|
| <u>\$Bil.</u> <u>Mil.</u>    | Thou. | \$Bil.     | Nonfederal<br>Mil. | Thou.    | \$Bil. | Total<br>Mil. | Thou. |
| Idaho                        |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Illinois                     |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Indiana                      |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| lowa                         |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Kansas                       |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Kentucky                     |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Louisiana                    |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Maine                        |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Maryland                     |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Massachusetts                |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Michigan                     |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Minnesota                    |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
| Mississippi                  |       |            |                    |          |        |               |       |
|                              |       |            |                    |          |        |               |       |
|                              | Q     | uestion co | ntinues on n       | ext page |        |               |       |

| 3-21 (Con          | ntinued)       |       |               |                   |          |               |              |              |
|--------------------|----------------|-------|---------------|-------------------|----------|---------------|--------------|--------------|
|                    | (1)<br>Federal |       |               | (2)<br>Nonfederal |          |               | (3)<br>Total |              |
| \$Bil.<br>Missouri | Mil.           | Thou. | <u>\$Bil.</u> | Mil.              | Thou.    | <u>\$Bil.</u> | Mil.         | <u>Thou.</u> |
|                    |                |       |               |                   |          |               |              |              |
| Montana            |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| Nebraska           |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| Nevada             |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| New Hamps          | hire           |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| New Jersey         |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| New Mexico         |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| New York           |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| North Caroli       | na             |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| North Dakot        | a              |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| Ohio               |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| Oklahoma           |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
| Oregon             |                |       |               |                   |          |               |              |              |
|                    |                |       |               |                   |          |               |              |              |
|                    |                | Q     | uestion co    | ontinues on r     | ext page |               |              |              |
|                    |                |       |               |                   |          |               |              |              |

| (1) Federal  \$Bil. Mil. Thou. \$Bil.  Pennsylvania | (2)<br>Nonfederal<br><u>Mil.</u> <u>Thou.</u> | (3)<br>Total      |
|---|---|-------------------|
|   |   | \$Bil. Mil. Thou. |
|   |   |                   |
| Rhode Island  |   |                   |
|   |   |                   |
| South Carolina                                      |   |                   |
|   |   |                   |
| South Dakota  |   |                   |
|   |   |                   |
| Tennessee   |   |                   |
|   |   |                   |
| Texas   |   |                   |
|   |   |                   |
| Utah  |   |                   |
|   |   |                   |
| Vermont   |   |                   |
|   |   |                   |
| Virginia  |   |                   |
|   |   |                   |
| Washington  |   |                   |
|   |   |                   |
| West Virginia                                       |   |                   |
|   |   |                   |
| Wisconsin   |   |                   |
|   |   |                   |
| Wyoming   |   |                   |
| Question cont                                       | tinues on next page                           |                   |

| 3-21 (Continue  F  \$Bil. M  Total   | (1)<br>ederal                           | (2)<br>Nonfederal<br>\$Bil. <u>Mil.</u> Thou           | (3)<br>Total<br><u>ı. \$Bil. Mil.</u> | <u>Thou.</u> |
|--------------------------------------|---|--|---------------------------------------|--------------|
|                                      | als Question 3-17                       | Total equals Question 3-2                              | Total equals Qu                       | estion 3-12  |
| 3-22 At what d                       |   | did your company perfor                                | ·                                     |              |
| Address 2                            |   |  |                                       |              |
| City                                 |   |  | State ZIP                             |              |
|                                      |   | reported in Question 3-12<br>ntified in Question 3-22? | \$Bil. Mil.                           | Thou.        |
| 3-24 At what do of R&D the Address 1 | lomestic location<br>nat was paid for b | did your company perform<br>by others in 2016?         | m the second largest d                | ollar amount |
| 0000<br>0145-2-2                     |   |  |                                       |              |
| Address 2                            |   |  |                                       |              |
| City                                 |   |  | State ZIP                             |              |
|                                      |   | reported in Question 3-12<br>ntified in Question 3-24? | \$Bil. Mil.                           | Thou.        |
|                                      |   |  |                                       |              |
|                                      |   |  |                                       |              |

| R&D performed by others  |                       |      |       |
|--|-----------------------|------|-------|
| 3-26 Copy the amount from Question 3-8, column 1. This is the domestic R&D performed by others that was paid for by others.  | \$Bil.                | Mil. | Thou. |
| 3-27 Of the amount reported in Question 3-26, how much R&D was paid for by U.S. federal government agencies or laboratories?   | \$Bil.                | Mil. | Thou. |
| Projected R&D paid for by others in 2017   |                       |      |       |
| 3-28 What are your company's projected 2017 costs for R&D that will be paid for by others?   | \$Bil.                | Mil. | Thou. |
| NOTE: This amount is the 2017 projection for what is reported in Question 3-2.   |                       |      |       |
| 3-29 How much of the projected costs in 2017 for R&D that we be paid for by others reported in Question 3-28 will be performed by your company in the United States?                           | <b>'ill</b><br>\$Bil. | Mil. | Thou. |
| NOTE: This amount is the 2017 projection for what is reported in Question 3-12.  |                       |      |       |
| 3-30 How much of the projected costs in 2017 for domestic Reperformed by your company that will be paid for by othe reported in Question 3-29 will be paid for by the U.S. federal government? |                       | Mil. | Thou. |
| NOTE: This amount is the 2017 projection for what is reported in Question 3-17.  |                       |      |       |
|  |                       |      |       |

## **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.

4-1 Copy the amount from Question 2-4. This is the total R&D paid for by your company in 2016.

| \$Bil. | Mil. | Thou. |
|--------|------|-------|
|        |      |       |
|        |      |       |

- 4-2 Is the amount entered in Question 4-1 greater than zero?
  - Yes → Continue with Question 4-3
  - No → Skip to Question 4-15 on page 37
- What percentage of the amount reported in Question 4-1 was directed toward business areas or product lines that are new to your company?

**Example:** Company A manufactures laptop computers. In 2016 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 2016, Company A reports this R&D in this question.

| T | T |   |
|---|---|---|
|   |   | % |
|   |   |   |

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

4-4 Copy the amount from Question 2-16. This is the domestic R&D paid for and performed by your company.

| \$Bil. | Mil. | Thou. |
|--------|------|-------|
|        |      |       |
|        |      |       |

4-5 How much of the amount reported in Question 4-4 was for the following categories?

| \$Bil. | Mil. | Thou. |  |  |  |
|--------|------|-------|--|--|--|
|        |      |       |  |  |  |

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



| 4-6  | If you reported any research in Question 4-5, line a, how   |              |          |        |
|------|---|--------------|----------|--------|
|      | much of that research was for the following categories?   | \$Bil.       | Mil.     | Thou.  |
|      | a. <u>Applied research</u> -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. <b>Total</b> (equals Question 4-5, line a)   |              |          |        |
|      | as of application for domestic R&D paid for and populary  | erformed     | d by you | ır     |
| NOTE | : You may report the same R&D in multiple areas for Quest   | ions 4-7 to  | 4-11.    |        |
| 4-7  | What percentage of the amount reported in Question 4-4 henergy applications, including energy production, distribution and efficiency (excluding exploration and prospecting)?  |              | ge,      |        |
|      | <b>Example:</b> Company B is a semiconductor manufacturer. Its products ar specifically for energy applications. In 2016, 10% of the domestic R&D p the company was focused on improving the energy efficiency of its prothis, Company B reports "10%" for this question. | performed by | ,        | %      |
| 4-8  | What percentage of the amount reported in Question 4-4 henvironmental protection applications, including pollution abatement?   |              |          | %      |
| 4-9  | What percentage of the amount reported in Question 4-4 has defense applications, including military applications and great security-related R&D?  |              |          | %      |
| 4-10 | What percentage of the amount reported in Question 4-4 health or medical applications?  | nad          |          | %      |
| 4-11 | What percentage of the amount reported in Question 4-4 hagricultural applications?  | nad          |          | %      |
| Tecl | nnology focus of domestic R&D paid for and perfo  | ormed by     | your c   | ompany |
| NOTE | : You may report the same R&D in multiple areas for Quest   | ions 4-12    | to 4-14. |        |
| 4-12 | What percentage of the amount reported in Question 4-4 versoftware products or software embedded in other projects  |              | cts?     | %      |
| 4-13 | What percentage of the amount reported in Question 4-4 verbiotechnology—the use of cellular and bio-molecular processolve problems or make useful products?   |              |          | %      |
| 4-14 | What percentage of the amount reported in Question 4-4 vananotechnology—the science and technology involving we nanometer scale?  |              |          | %      |



| Domestic R&D performed by your company that was   | paid for                       | by othe | rs    |
|---|--------------------------------|---------|-------|
| 4-15 Copy the amount from Question 3-12. This is the domestic R&D performed by your company that was paid for by others.  | \$Bil.                         | Mil.    | Thou. |
| 4-16 Is the amount entered in Question 4-15 greater than zero?  ☐ Yes → Continue with Question 4-17  ☐ No → Skip to Question 4-32 on page 39  |                                |         |       |
| 4-17 How much of the amount reported in Question 4-15 was for the following categories?  a. Research-planned, systematic pursuit of new knowledge or understanding  | \$Bil.                         | Mil.    | Thou. |
| 4-18 If you reported any research in Question 4-17, line a, how much of that research was for the following categories?  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 | \$Bil.                         | Mil.    | Thou. |
| NOTE: You may report the same R&D in multiple areas for Quest  4-19 What percentage of the amount reported in Question 4-15 applications, including energy production, distribution, st efficiency (excluding exploration and prospecting)?  4-20 What percentage of the amount reported in Question 4-15 environmental protection applications, including pollution              | had <u>energ</u><br>orage, and | gy      | %     |
| 4-21 What percentage of the amount reported in Question 4-15 defense applications, including military applications and essecurity-related R&D?  |                                |         | %     |



| 4-22 What percentage of the amount reported in Question 4-15 had health or medical applications?   |
|--|
| 4-23 What percentage of the amount reported in Question 4-15 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 4-24 to 4-26.  |
| What percentage of the amount reported in Question 4-15 was for software products or software embedded in other projects or products?  |
| 4-25 What percentage of the amount reported in Question 4-15 was for biotechnology—the use of cellular and bio-molecular processes to solve problems or make useful products?  |
| 4-26 What percentage of the amount reported in Question 4-15 was for nanotechnology—the science and technology involving work at the nanometer scale?  |
| Domestic R&D performed by your company that was paid for by the U.S. federal government  |
| 4-27 Copy the amount from Question 3-17. This is domestic R&D performed by your company that was paid for by the U.S. federal government.  |
| 4-28 Is the amount entered in Question 4-27 greater than zero?   |
| ☐ Yes → Continue with Question 4-29  |
| No → Skip to Question 4-32 on page 39  |
| How much of the amount reported in Question 4-27 was   |
| for the following categories? \$Bil. Mil. Thou.  a. Research-planned, systematic pursuit of new  |
| 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. <b>Total</b> (equals Question 4-27)   |
|  |



| 4-30 If you reported any research in Question 4-29, line a, how much of that research was for the following categories?  | \$Bil. | Mil.       | Thou.  |
|--|--------|------------|--------|
| <ul> <li>a. Applied research—activities aimed at solving a specific problem or meeting a specific commercial objective</li> </ul>  |        |            |        |
| b. Basic research—activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses  |        |            |        |
| c. <b>Total</b> (equals Question 4-29, line a)   |        |            |        |
| 4-31 What percentage of the amount reported in Question 4-27 software products or software embedded in other project   |        |            | %      |
| Characteristics of foreign R&D paid for and performe   | d by y | our comp   | pany   |
| 4-32 Copy the amount from Question 2-14. This is the   | \$Bil. | Mil.       | Thou.  |
| foreign R&D paid for and performed by your company.  |        |            |        |
| 4-33 How much of the amount reported in Question 4-32 was for the following categories?  | \$Bil. | Mil.       | Thou.  |
| a. Research-planned, systematic pursuit of new knowledge or understanding  | االط   | IVIII.     | Tilou. |
| b. <u>Development</u> –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. <b>Total</b> (equals Question 4-32)   |        | 000        |        |
| Characteristics of foreign R&D performed by your coffor by others  | mpany  | / that was | s paid |
| 4-34 Copy the amount from Question 3-10. This is the   | \$Bil. | Mil.       | Thou.  |
| foreign R&D performed by your company and paid for by others.  |        |            |        |
| 4-35 How much of the amount reported in Question 4-34 was for the following categories?  | \$Bil. | Mil.       | Thou.  |
| Research-planned, systematic pursuit of new knowledge or understanding   |        |            |        |
| b. <u>Development</u> -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. <b>Total</b> (equals Question 4-34)   |        |            |        |

# SECTION 5 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.

| This sec<br>R&D act | ction requests information about tivities either full-time or part-<br>tour company owned more the  | time. Include employi                          |  |                              |  |  |
|---------------------|---|--|--|------------------------------|--|--|
| 5-1                 | What was the total number your company for the pay  |  |  |                              |  |  |
|                     | Include: • Full- and part-time employee   | es   |  | Number                       |  |  |
|                     | Exclude:  • Leased or temporary employ  | vees and consultants                           |  |                              |  |  |
| 5-2                 | How many of the employe your company's domestic   |  |  | rees of                      |  |  |
|                     | <b>Domestic operations employees</b> include all employees whose payroll was reported on the first quarter filing of IRS Form 941, Employer's Quarterly Tax Return. |  |  |                              |  |  |
|                     |   | (1)<br>Domestic<br>operations                  | (2)<br>Foreign<br>operations                                 | (3)<br>Total<br>employees    |  |  |
|                     | Employees   |  |  |                              |  |  |
|                     |   |  |  | Total equals<br>Question 5-1 |  |  |
| 5-3                 | How many employees repowere all other employees?  |  | 2 were R&D employe   | es and how many              |  |  |
|                     | <b>R&amp;D</b> employees include all eto R&D, such as researchers, Roto R&D groups. <b>Exclude</b> employerporate personnel, security g                             | &D managers, techniciar byees who provide only | ns, clerical staff, and others<br>indirect support to R&D, s | s assigned                   |  |  |
|                     |   | (1)<br>Domestic<br>operations                  | (2)<br>Foreign<br>operations                                 | (3)<br>Total<br>employees    |  |  |

|                        | (1)<br>Domestic<br>operations | (2)<br>Foreign<br>operations | (3)<br>Total<br>employees |
|------------------------|-------------------------------|------------------------------|---------------------------|
| a. R&D employees       |                               |                              |                           |
| b. All other employees |                               | 000000                       |                           |
| c. Total employees     |                               |                              |                           |

Total line equals Question 5-2



| R&I | D employees   |  |                                     |                               |
|-----|---|--|-------------------------------------|-------------------------------|
| 5-4 | Copy the numbers from (R&D employees.   |  | •                                   | -                             |
|     |   | (1)<br>Domestic<br>operations            | (2)<br>Foreign<br>operations        | (3)<br>Total R&D<br>employees |
|     | R&D employees   |  | 000000                              |                               |
| 5-5 | How many of the R&D en and male employees?  |  | _                                   |                               |
|     |   | (1) Domestic operations                  | (2)<br>Foreign<br>operations        | (3)<br>Total R&D<br>employees |
|     | a. Female R&D employees   |  |                                     |                               |
|     | b. Male R&D employees   |  |                                     |                               |
|     | c. Total R&D employees  |  |                                     |                               |
|     |   | Т  | otal line equals Question 5         | -4                            |
| 5-6 | How many of the R&D en  | nnlovees renorted in                     | Ouestion 5-4 worked                 | in the                        |
|     | occupations listed below  | ? (1) Domestic                           | (2)<br>Foreign                      | (3)<br>Total R&D              |
|     | a. Researchers (including   | operations                               | operations                          | employees                     |
|     |   |  |                                     |                               |
|     | R&D scientists, engineers, and their managers)  |  |                                     |                               |
|     | R&D scientists, engineers, and their  |  |                                     |                               |
|     | R&D scientists, engineers, and their managers)  |  |                                     |                               |
|     | R&D scientists, engineers, and their managers) b. R&D technicians and equivalent staff c. R&D support staff   |  |                                     |                               |
|     | R&D scientists, engineers, and their managers) b. R&D technicians and equivalent staff c. R&D support staff (clerical and other)                                      |  | Total line equals Question 5        |                               |
| 5-7 | R&D scientists, engineers, and their managers)  b. R&D technicians and equivalent staff  c. R&D support staff (clerical and other)  d. <b>Total R&amp;D employees</b> |  | ·                                   |                               |
| 5-7 | R&D scientists, engineers, and their managers) b. R&D technicians and equivalent staff c. R&D support staff (clerical and other)                                      | hers reported in Que                     | stion 5-6, line a, had              | the following <u>level</u>    |
| 5-7 | R&D scientists, engineers, and their managers)  |  | ·                                   |                               |
| 5-7 | R&D scientists, engineers, and their managers)  | thers reported in Que<br>(1)<br>Domestic | estion 5-6, line a, had (2) Foreign | the following <u>level</u>    |
| 5-7 | R&D scientists, engineers, and their managers)  | thers reported in Que<br>(1)<br>Domestic | estion 5-6, line a, had (2) Foreign | the following <u>level</u>    |
| 5-7 | R&D scientists, engineers, and their managers)  | thers reported in Que<br>(1)<br>Domestic | estion 5-6, line a, had (2) Foreign | the following <u>level</u>    |
| 5-7 | R&D scientists, engineers, and their managers)  | thers reported in Que<br>(1)<br>Domestic | estion 5-6, line a, had (2) Foreign | the following <u>level</u>    |

| Domestic full-time equ                      | ivalents (FTEs)  |                                    |
|---|--|------------------------------------|
| number of full-time e                       | employees reported in Question 5-<br>equivalents (FTEs) for R&D activity for<br>eyees not working solely on R&D, a | for full-time R&D employees,       |
|   |  | Number                             |
| a. FTEs for full-time R8 Count the number o | kD employees<br>f full-time employees who work only or   | n R&D                              |
| <b>Example:</b> 50 full-time R&D emp        | loyees worked only on R&D = 50 FTEs  |                                    |
| Use the share of the                        | me employees not working solely on Retime they work on R&D to calculate the  | ie On On On                        |
| <b>Example:</b> 60 full-time employee       | s averaged one-fourth of their time on R&D   | ) = 15 FTEs                        |
| Use the share of a f                        | mployees working on R&D<br>ull-time week (such as 40 hours) that th<br>the FTEs                                    |                                    |
| <b>Example:</b> 20 part-time employe        | es averaged 20 hours a week on R&D activi  | ties = 10 FTEs                     |
| d. <b>Total FTEs</b>                        | Total FTEs should n  | not exceed Question 5-4, column 1. |
|   |  |                                    |

| 5-9  | th<br>eı | f the domestic researchers reported in Question 5-6, line a, column 1, what was ne number of full-time equivalents (FTEs) for R&D activity for full-time R&D appropriately and part-time apployees, other full-time employees not working solely on R&D, and part-time apployees? |
|------|----------|---|
|      |          | Number  |
|      | a.       | FTEs for full-time researchers  Count the number of full-time employees who work only on R&D  |
|      |          | <b>Example:</b> 50 full-time R&D scientists worked only on R&D = 50 FTEs  |
|      | h        | FTEs for other full-time researchers not working solely on R&D  |
|      | δ.       | Use the share of the time they work on R&D to calculate the number of FTEs  |
|      |          | <b>Example:</b> 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   |
|      | 0.       | 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 5-6, line a, column 1.  |
|      |          |   |
| 5-10 | W        | ow many of the domestic researchers reported in Question 5-6, line a, column 1, ere non-U.S. citizens employed in the United States under a temporary visa, such s H-1B or L-1?   |
|      |          | Domestic<br>Operations  |
|      | F        | esearchers employed under a temporary visa  |
|      |          |   |
|      |          |   |
|      |          |   |



# **SECTION 6**

## **SECTION 6**

### **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 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 are seen only by persons sworn to uphold the confidentiality of Census Bureau information. Data provided will be used only to publish summary statistics that do not identify individual companies. 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.

| Tota | l patents and utility patents   |         |      |          |
|------|---|---------|------|----------|
| 6-1  | How many total patents did your company apply for in 20 the U.S. Patent and Trademark Office (USPTO)?   | 16 from |      | Number   |
| 6-2  | Of the patent applications reported in Question 6-1, what number of <u>nonprovisional utility patent</u> applications?  | was the |      | Number   |
| 6-3  | What percentage of the nonprovisional utility patent appl reported in Question 6-2 has your company applied for or apply for in foreign jurisdictions?        |         |      | <b>%</b> |
| 6-4  | What percentage of the nonprovisional utility patent appl reported in Question 6-2 was for inventions that originate your company's organized R&D activities? |         |      | %        |
| 6-5  | What percentage of your company's inventions considere patenting in 2016 resulted in nonprovisional utility paten   |         | ons? | %        |
| 6-6  | How many <u>utility patents</u> were <u>issued</u> to your company in the USPTO?  | 2016 by |      | Number   |
| Util | ty patent sales and licensing <u>to others</u>  |         |      |          |
| 6-7  | How much revenue did your company receive in 2016 from the sale of utility patents?   | \$Bil.  | Mil. | Thou.    |
|      |   |         |      |          |



| 6-9   | Was any of the revenue reported in Questions 6-7 or 6-8 received from companies or organizations located outside the United States?             |         |      | Yes |      | No |
|-------|---|---------|------|-----|------|----|
| Utili | ity patent purchases and licensing from others  |         |      |     |      |    |
| 6-10  | How much did your company pay others in 2016 to purchase utility patents?   | \$Bil.  | Mil. |     | Thou |    |
| 6-11  | How much did your company pay others in 2016 to license utility patents?  | \$Bil.  | Mil. |     | Thou |    |
| 6-12  | Were any of the payments reported in Questions 6-10 or 6-11 made to companies or organizations located outside the United States?               |         |      | Yes |      | No |
| Inte  | llectual property transfer activities   |         |      |     |      |    |
| 6-13  | Did your company perform the following activities in 201  | 6?      |      |     |      |    |
|       | a. Transferred intellectual property (IP) to others not owned by company through participation in technical assistance or "know how" agreements |         |      | Yes |      | No |
|       | b. Received IP from others not owned by your company throug participation in technical assistance or "know how" agreemen                        |         |      | 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 s   | pin-out |      | Yes |      | No |
|       | e. Acquired more than 50% ownership in another company for primary purpose of acquiring their IP  |         |      | Yes |      | No |
|       | f. Acquired any financial interest in another company in order gain access to their IP  |         |      | Yes |      | No |
|       | g. Participated in cross-licensing agreements—the agreements is two or more parties grant a license to each other for the use                   |         |      |     |      |    |
|       | the subject matter claimed in one or more of the patents ow by each party   | ned     |      | Yes |      | No |
|       | h. Allowed free use of patents or other IP owned by your comp (for example, open source software)   |         |      | Yes |      | No |
|       | i. Made use of open source patents or other freely available IP owned by your company   |         |      | Yes |      | No |
|       |   |         |      |     |      |    |
|       |   |         |      |     |      |    |
|       |   |         |      |     |      |    |
|       |   |         |      |     |      |    |
|       |   |         |      |     |      |    |

| Busir          | ness codes  | Consu           | mer Goods  |
|----------------|---|-----------------|--|
|                | in Sections 1, 2, and 3)  | 33333           | Digital cameras manufacturing  |
| Aeros          | pace and Defense  | 33430           | Audio and video equipment manufacturing  |
| 33642          | Aircraft engine and engine parts manufacturing                                    | 31210           | Beverage manufacturing   |
| 33641          | Aircraft manufacturing  | 33200<br>31100  | Fabricated metal products manufacturing<br>Food manufacturing                      |
| 33644          | Guided missiles, space vehicles, and parts  | 33700           | Furniture and related products manufacturing                                       |
| 33692          | manufacturing<br>Military armored vehicle, tank, and tank                         | 32300           | Printing and related support activities  |
| 33032          | components manufacturing  | 32591           | Soap, cleaning compound, and toilet  |
| 33452          | Search, detection, navigation, guidance,  | 31990           | preparations manufacturing<br>Textile, apparel, and leather products               |
|                | aeronautical, and nautical system and   | 31990           | manufacturing  |
| 33660          | instruments manufacturing   | 31220           | Tobacco manufacturing  |
| 33643          | Ship and boat building Other aircraft parts and auxiliary equipment               | 33990           | Miscellaneous manufacturing not listed   |
|                | manufacturing   |                 | elsewhere (games, office supplies,   |
| Λ4             | shiles Metavariae and Components  |                 | slot machines, etc.)   |
|                | obiles, Motorcycles, and Components   | Energy          | / and Mining   |
| 33620<br>33630 | Motor vehicle body and trailer manufacturing<br>Motor vehicle parts manufacturing | 33360           | Engine, turbine, and power transmission  |
| 33610          | Motor vehicles manufacturing  |                 | equipment manufacturing  |
| 33691          | Motorcycle, bicycle, and parts manufacturing                                      | 21200           | Mining   |
| 33651          | Railroad rolling stock manufacturing  | 33319           | Mining, oil, and gas field machinery and   |
| 33660<br>33699 | Ship and boat building All other transportation equipment                         | 21100           | equipment manufacturing Oil and gas extraction                                     |
|                | manufacturing   | 32401           | Petroleum refineries   |
| Canita         | •   | 21300           | Support activities for mining,   |
| 33311          | I Equipment  Agricultural machinery and equipment                                 |                 | including oil and gas  |
| 33311          | manufacturing   | Financ          | e, Insurance, and Real Estate  |
| 33332          | Commercial, service industry, temperature   | 52200           | Finance: banking and credit intermediation   |
|                | control, and airflow control machinery  | 52400           | Insurance carriers and related activities  |
| 33312          | manufacturing Construction machinery manufacturing                                | 53100<br>52310  | Real estate Securities, commodity contracts, and other                             |
| 33500          | Electrical equipment, appliances, and   | 32310           | financial investments and related activities                                       |
|                | components manufacturing  |                 | (including funds and trusts)   |
| 33360          | Engine, turbine, and power transmission equipment manufacturing                   | 11146           |  |
| 33322          | Industrial machinery manufacturing, except  | Health<br>32543 | Biotechnology-based pharmaceutical and   |
| 00000          | semiconductor machinery   | 32343           | biological products (except diagnostics)   |
| 33390          | Metalworking and other general purpose machinery manufacturing                    | 33451           | Electromedical, electrotherapeutic, and  |
| 33319          | Mining, oil, and gas field machinery and  | 60000           | irradiation apparatus manufacturing  |
|                | equipment manufacturing   | 62200<br>32542  | Hospitals and nursing care facilities In vitro diagnostic substances manufacturing |
| 33331          | Photographic and photocopying equipment   | 62150           | Medical and diagnostic laboratories  |
|                | manufacturing   | 33910           | Medical equipment and supplies manufacturing                                       |
| Chemi          | cals and Materials  | 62110           | Offices of physicians  |
| 32402          | Asphalt paving, roofing, and saturated  | 32541           | Pharmaceutical, medicinal, and botanical products manufacturing                    |
| 22510          | materials manufacturing   | 54173           | Research and development services  |
| 32510<br>32790 | Basic chemicals manufacturing<br>Cement, concrete, lime, gypsum, and other        |                 | in biotechnology   |
| 02700          | nonmetallic mineral product manufacturing   | 54174           | Research and development services  |
| 32710          | Clay and glass products manufacturing   |                 | in physical, engineering, and life sciences (except biotechnology)                 |
| 21200          | Mining  | 62199           | Other ambulatory health care services  |
| 32592          | Paint, adhesive, and other chemical manufacturing                                 |                 | (ambulance, dental, home health care)  |
| 32200          | Paper manufacturing   |                 |  |
| 32530          | Pesticide, fertilizer, and other agricultural                                     |                 |  |
| 22600          | chemical manufacturing  |                 |  |
| 32600<br>33100 | Plastics and rubber products manufacturing<br>Primary metal manufacturing         |                 |  |
| 32520          | Resin, synthetic rubber, and artificial   |                 |  |
|                | synthetic fibers and filaments manufacturing                                      |                 |  |
| 32591          | Soap, cleaning compound, and toilet   |                 |  |
| 32100          | preparations manufacturing Wood products manufacturing                            |                 |  |
| 32403          | Other petroleum and coal products   |                 |  |
|                | manufacturing, including motor oil,   |                 |  |
|                | hydraulic fluid, and charcoal   |                 |  |



| Informa | ation 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  |
| 00440   | communication equipment manufacturing  |
| 33440   | Semiconductor and other electronic   |
| 00004   | components manufacturing   |
| 33321   | Semiconductor machinery manufacturing  |
| 51120   | Software publishers (except Internet)  |
| 33421   | Telephone apparatus manufacturing  |
| 42500   | including routers, modems, and gateways Wholesale electronic markets and       |
| 42500   | Triciocato ciocatorilo markoto ana   |
| 33429   | agents and brokers (business to business)                                      |
| 33429   | Other communication equipment  |
|         | manufacturing (except radio, television, and wireless communication equipment) |
| 51910   | Other information services, including  |
| 31310   | Internet publishing, broadcasting,   |
|         | and web search portals   |
|         | and trop coulon portulo  |

#### **Professional, Scientific, and Technical Services**

| Advertising and related services   |
|--|
| Architectural, engineering, and related services<br>Computer systems design and related services |
| Legal, accounting, tax preparation,  |
| bookkeeping and payroll services   |
| Management, scientific, and  |
| technical consulting services  |
| Professional, scientific, and technical services   |
| (not listed elsewhere)   |
| Research and development services in   |
| biotechnology  |
| Research and development services in   |
| physical, engineering, and life sciences   |
| (except biotechnology)   |
| Research and development services in   |
| social sciences and humanities   |
| 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<br>56100 | Accommodation and food services Administrative and support services |
|----------------|---|
| 71000          | Arts, entertainment, and recreation                                 |
| 23000          | Construction  |
| 49200          | Couriers, messengers, and express delivery                          |
| 10200          | services  |
| 53300          | Lessors of nonfinancial intangible assets                           |
| FF100          | (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)                               |
|                |   |
|                |   |



| Remarks (Please use the space below for any explanations that may help us understand your reported data.)   |
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| We estimate this survey will take 15 hours, on average, to complete, including the time for reviewing   |
| instructions, researching 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: ECON Survey Comments 0607-0912, U.S. Census Bureau, 4600 Silver Hill Road, Room 6H128, Washington, DC 20233. You may e-mail comments to ERD.ALL.GEN.BRDIS@census.gov. Be sure to use ECON Survey Comments 0607-0912 as the subject. |
| $\scriptstyle\sim$ Thank you for completing your 2016 Business R&D and Innovation Survey $\scriptstyle\sim$   |
| PLEASE MAKE A COPY OF THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL  |