



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

FORM
BRDI-1 (01-02-2009)

2008 BUSINESS R&D AND INNOVATION SURVEY

OMB No. 1234-5678: Approval Expires 12/31/2012

DUE DATE
March 31, 2009

Report electronically:
www.census.gov/econhelp/rd

Username:
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 *not* mail in the paper form.

U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132-0001

- For information or assistance:**
- www.census.gov/econhelp/rd
 - Call 1-800-851-2014, option "0" (8 a.m. – 5 p.m. EST, M-F)
 - Write to the address above. Include your 11-digit ID printed on the mailing label.

DRAFT

(Please correct any errors in this mailing address.)

Your Response is Required by Law

Title 13, U.S. Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau.

Respondents are not required to respond to any information collection unless it displays a valid approval number from the Office of Management and Budget (OMB). The OMB 8-digit number appears in the upper right corner of this report form.

Your Response is Confidential by Law

Title 13, U.S. Code, 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 this company's files are immune from legal process.

Thank You – Your Response is Important

The Business Research and Development Survey will provide valuable information for U.S. policy makers as well as industry and academic data users. Better information about Research and Development in the U.S. business sector will help leaders make better decisions to strengthen American competitiveness.

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 ~

General Instructions

What does this survey ask?

This survey will ask questions about this company's **R&D expenses** as well as R&D that is paid for by customers, the government, and other organizations that are not owned by this company (**funded R&D**). This survey also requests data on this company's R&D employees and intellectual property (IP).

What is Research and Development (R&D)?

R&D is planned, creative work aimed at discovering new knowledge or developing new or significantly improved goods or services.

The term Research and Development does **not** include expenditures for:

- Routine quality control testing
- 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

Can I file this survey electronically?

YES. You may submit your report by mail or electronically via Census Taker, a web-based form.

How to file electronically

- (1) Go to www.census.gov/econhelp/rd
- (2) Click on Electronic Reporting
- (3) Enter your Username and Password
- (4) Click on "Start Form"

Advantages

- Reduced time and expense to report
- Improved quality through automatic data checks
- Data is saved to secure Census Bureau servers as you complete the form. You can exit the form and resume •at a later time without losing your data.
- Save a paper or electronic version of your completed form

Security

- Your information is encrypted at all times
- No cookies are used
- No plug-ins or downloaded software is required

How do I obtain additional information?

Our web site www.census.gov/econhelp/rd has the following information:

- More detailed general information about the Business Research and Development Survey
- Frequently asked questions
- Sample questionnaires
- Worksheets for each question in a format that can be saved and emailed

How do I obtain copies of the final data reports?

Data from this survey as well as other sources of information on science and technology are available at the National Science Foundation's website: www.nsf.gov/statistics/.

To speak with a survey analyst, call 1-800-851-2014, option "0" (8 a.m. – 5 p.m. EST, M-F)

Survey Coordinator Instructions

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 certifying and submitting the completed survey. The survey coordinator may not be able to personally complete the entire survey, but he or she will be able to request information from other knowledgeable resources within your company. The survey coordinator may be assigned by your company's CEO or another person with oversight of or access to your company's R&D, accounting, HR, and legal organizations.

Enter the contact information for your company's survey coordinator below.

Name	<input type="text"/>			Title	<input type="text"/>		
Telephone	Area code	Number	Extension	Fax	Area code	Number	Extension
	<input type="text"/>	- <input type="text"/>	<input type="text"/>		<input type="text"/>	- <input type="text"/>	<input type="text"/>
E-mail address	<input type="text"/>						

How do I complete this survey?

The Business R&D and Innovation Survey is divided into five sections. Each section asks questions about different aspects of R&D at your company. Due to the specialized nature of each section, it may be necessary to collaborate with colleagues in different departments within your company for each section. The sections are color-coded and cover the following topical areas:

Section 1: R&D Finance

- Asks for information about R&D expenses, sales and operating revenues and capital expenditures
- Best answered by persons with knowledge of your company's financial records

Section 2: R&D Management and Strategy

- Asks for specialized information about the characteristics of this company's R&D reported in Section 1
- Best answered by persons with first-hand knowledge of R&D operations, such as a VP of Research

Section 3: R&D Funded or Paid for by Others

- Asks for information about R&D that is paid for by others, such as that paid for by customers or partners
- Best answered by persons with knowledge of your company's financial records related to contracts and grants

Section 4: R&D Human Resources

- Asks for information about your company's R&D employees
- Best answered by persons with knowledge of your company's HR records

Section 5: Intellectual Property and Technology Transfer, and Innovation

- Asks for information about intellectual property such as patents, technology transfer activities such as patent licensing, and actions taken to improve company performance
- Best answered by persons with knowledge of your company's patenting, licensing, and general business strategy

You can access electronic copies of the questions or the whole survey on our web site:

www.census.gov/econhelp/rd.

NOTE: Questions 2•1, 2•2, and 2•3 in Section 2 require information from Section 1. If the person completing section 2 is not the same person completing section 1, please provide the requested information to him or her.

Company Information

1

Did your company cease operations prior to April 1, 2008?

- Yes → **Stop here and return the survey form to the U.S. Census Bureau.**
Alternatively, you may use our telephone or web options:
1-800-851-2014, option "0" (8 a.m. – 5 p.m. EST, M-F)
www.census.gov/econhelp/rd

No

2

Did another U.S. company own more than 50 percent of your company during 2008?

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

Name of owner

EIN (9 digits)

Mailing address

City

State

ZIP

(MM)

(DD)

(YYYY)

Date owner purchased your company

Stop here if your company was purchased before April 1, 2008.

Return this survey to the U.S. Census Bureau or use our telephone or web options:
1-800-851-2014, option "0" (8 a.m. – 5 p.m. EST, M-F)
www.census.gov/econhelp/rd

No

3

Did your company do any of the following during 2008?

- Incur R&D expenses
- Perform R&D that was funded or paid for by others not owned by your company such as:
 - Product development performed under contract for another company
 - Research funded by a government grant

- Yes → **Complete the rest of this survey beginning with Question 4.**

NOTE: If your company was either purchased or ceased operations between Apr. 1 and Dec. 31, 2008, complete the survey for the time period from Jan. 1, 2008 to the date of purchase or the date your company ceased operations.

- No → **Skip to Section 5, page 44**

Business Segments

Printed below are the business segment code(s) and description(s) in which we believe your company operates. The codes are preprinted based on payroll and receipts information contained in our database for your companies' establishments and research of your companies' global operations. These codes and descriptions are based on the North American Industry Classification System (NAICS).

Your company may have R&D activity in business segments where you have no payroll or receipts. It is also valid for your company to have payroll or receipts in business segments where your company has no R&D activity.

Business Segment Code

PREPRINT 1
 PREPRINT 2
 PREPRINT 3
 PREPRINT 4
 PREPRINT 5
 PREPRINT 6

Description

PREPRINTED DESCRIPTION 1
 PREPRINTED DESCRIPTION 2
 PREPRINTED DESCRIPTION 3
 PREPRINTED DESCRIPTION 4
 PREPRINTED DESCRIPTION 5
 PREPRINTED DESCRIPTION 6

4

Are the business segment codes above consistent with your company's R&D activities, payroll, and receipts?

- Yes → Continue with Question **5**
- No → Enter the correct codes and corresponding descriptions below.
 Refer to the Business Segment Code list on pages xx – xx.
 Note that many companies operate in only one business segment.

Code	Description

5

Did your company have more than one business segment code as defined here?

- Yes → Use the codes above to report in questions 1•13, 1•14, and 3•8. If someone else will be answering these questions, provide him or her with a copy of this page.
- No → You may skip questions 1•13, 1•14, and 3•8. If someone else would be answering these questions, inform him or her that they may skip these questions.

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SECTION 1

R&D Finance

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.

SECTION 1 – R&D Finance

What does this section cover?

This section requests financial information about your company's R&D expenses, sales or revenues, 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 segment.

What is the reporting unit?

The reporting unit is your company, including all subsidiaries and divisions. Include operations of subsidiary companies, where there is more than 50 percent ownership. Also include data for discontinued operations.

What is the difference between *R&D expense* and *R&D performance*?

This section uses two different concepts to collect information about your company's R&D: an accounting concept, R&D expense, and a physical concept, R&D performance. The amount of R&D reported using these two concepts may differ.

Report R&D expense according to accounting definitions used by your company. For more information refer to Financial Accounting Standards Board (FASB) Statement of Accounting Standards No. 2 (Accounting for Research and Development Costs). For this survey report R&D expense even if the amount is not considered material to your company.

Exclude:

- R&D from acquired companies prior to acquisition (in-process R&D)
- Costs for routine product testing, quality control, and technical services
- R&D funded or paid for by others not owned by your company (these costs are reported in Section 3).

Report R&D performance based on the location where R&D was performed by your company. Exclude costs for R&D performed by others not owned by your company such as contract research organizations, universities, and federal laboratories.

What do the terms “worldwide” and “domestic” mean?

The term “worldwide” refers to all geographic locations including the United States. The term “domestic” refers to the 50 United States and the District of Columbia only.

How should dollar amounts be reported?

Report all dollar amounts rounded to the nearest thousands.

	\$Bil.	Mil.	Thou.
Example: If figure is \$179,125,628.00 report:		179	126

Are estimates acceptable?

Yes, estimates are acceptable. Please report all items to the best of your ability.

How should I answer a question that does not apply to my company?

Enter “0” if a question or category does not apply to your company.

What time period should be reported?

Report data for calendar year 2008, if possible, or for your company's fiscal year ending between April 2008 and March 2009.

NOTE: If your company was either purchased or ceased operations between April 1 and December 31, 2008, complete the survey for the period from January 1, 2008 to either the date of purchase or the date your company ceased operations.

1•1

What was the total worldwide R&D expense for your company (including all Domestic expenditures) in 2008?

Include:

- R&D expenses for all foreign and domestic subsidiaries and divisions owned by your company
- Contract R&D services purchased from others, including clinical trials
- R&D in social sciences—the application of scientific methods to the study of the human aspects of the world, including such disciplines as economics and psychology
- R&D expenses for discontinued operations

Exclude:

- R&D costs paid for by others not owned by your company (these costs are reported in Section 3), such as:
 - Costs associated with contract services your company provides to others
 - Costs for R&D funded by government grants
 - Costs reimbursed by business partners
- Capital expenditures for R&D (report domestic capital expenditures in question 1•15)
- Market and advertising research
- Independent research and development (IR&D) costs for which your company anticipates reimbursement by the U.S. government through indirect charges on government contracts (these costs are reported in Section 3)

\$ Bil.	Mil.	Thou.

This answer is used in Questions 1•2, 1•5, 1•8, 1•14, and 2•1

1•2

How much of the 2008 worldwide R&D expense reported in Question 1•1 was for gross payroll—wages and salaries of employees excluding the cost of fringe benefits?

\$ Bil.	Mil.	Thou.

1•3

What was the amount of your company's worldwide net sales and operating revenues—the value of goods and services sold during the year, net of discounts, returns, and allowances—during 2008?

Include:

- Sales and operating revenues for discontinued operations

Exclude:

- Non-operating income (e.g. dividends, interest)
- Excise, sales, and other revenue based taxes

\$ Bil.	Mil.	Thou.

1•4

How much of the 2008 worldwide net sales and operating revenues reported in Question 1•3 was from domestic operations?

Include:

- Operating revenues and sales to foreign subsidiaries

\$ Bil.	Mil.	Thou.

1•5

How much of the 2008 worldwide R&D expense reported in Question 1•1 was (1) R&D expense and (2) R&D performance for the countries listed below?

R&D expense by country should reflect the R&D costs incurred on behalf of or for the benefit of the company operations in each country. R&D that is applicable to more than one country should be allocated to those countries on a reasonable basis. Allocation in proportion to operating revenues is acceptable unless some alternative allocation basis is more appropriate.

R&D performance by country should reflect the actual location where your company performed R&D. *Exclude R&D performed for your company by others not owned by your company such as contract research organizations (CROs), universities, and federal laboratories.*

Example: Company A is headquartered in the United States. In 2008:

- All of Company A's R&D was for the benefit of its U.S. operations.
- Company A spent \$6 million on R&D performed at A's research facility in Japan.
- Company A paid a contract research organization (CRO) \$4 million for R&D services.

Based on these facts, Company A would report the following for this question:

- In column 1, Company A reports a \$10 million R&D expense for the United States.
- In column 2, Company A reports a \$6 million R&D performance for Japan.

Note: Company A does not report the \$4 million it paid to the CRO for R&D services in column 2 because that R&D was not performed by A.

	(1) R&D expense			(2) R&D performance		
	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.
a. United States (domestic)						
b. Puerto Rico						
c. Canada						
d. China						
e. France						
f. Germany						
g. India						
h. Ireland						
i. Israel						
j. Italy						
k. Japan						
l. Russia						
m. Singapore						
n. Sweden						

Question continues on next page

1•5

(Continued)

	(1) R&D expense			(2) R&D performance		
o. United Kingdom						
p. All other						
q. Total (R&D expense equals Question 1•1, R&D performance may be less)						

1•6

Copy the amount reported in Question 1•5, line a, column 2—domestic R&D performance.

\$ Bil.	Mil.	Thou.

This answer is used in Questions 1•7, 1•9, 1•10, 1•12, 1•14, and 2•2

1•7

How much of the domestic R&D performance in 2008 reported in Question 1•6 was for the benefit of or on behalf of your company's foreign operations or foreign subsidiaries?

Example: Company B owns a subsidiary in Canada. In 2008 Company B performed \$10 million of R&D at its U.S. lab on behalf of its Canadian subsidiary. Company B reports this \$10 million of R&D in this question.

\$ Bil.	Mil.	Thou.

1•8

How much of the worldwide R&D expense for your company reported in Question 1•1 was performed by others not owned by your company such as contract research organizations, universities, or government labs?

	\$ Bil.	Mil.	Thou.
a. Companies located in the United States			
b. Companies located outside the United States			
c. U.S. federal agencies or laboratories			
d. U.S. state and local government agencies or laboratories			
e. Foreign government agencies or laboratories			
f. Universities, colleges, and academic researchers, including primary investigators located in the United States			
g. Universities, colleges, and academic researchers, including primary investigators located outside the United States			
h. All other organizations			
i. Total			

This answer is used in Question 2•3

1•9

How much of the domestic R&D performance reported in Question 1•6 was for the following types of costs?

a. Gross annual payroll—wages and salaries of R&D employees and officers excluding fringe benefits

\$ Bil.	Mil.	Thou.

b. Employer's cost for fringe benefits

--	--	--

Include:

- Disability benefits
- Life and medical insurance
- Paid holidays, time off benefits, vacation, annual, sick, and maternity leave
- Retirement benefits, pension, and social security contributions

c. Temporary staffing and leased employees

--	--	--

Include:

- Costs paid to Professional Employer Organizations (PEOs) and staffing agencies for personnel
- All charges for payroll, benefits and services

d. Expensed equipment

--	--	--

e. Materials and supplies

--	--	--

f. Lease and rental payments

--	--	--

g. Depreciation and amortization on R&D property and equipment

--	--	--

h. Stock based compensation

--	--	--

i. All other costs

--	--	--

j. **Total** (equals Question 1•6)

--	--	--

1•10

How much of the domestic R&D performance reported in Question 1•6 was performed in each state (including the District of Columbia) in 2008?

	\$ Bil.	Mil.	Thou.
Alabama			
Alaska			
Arizona			
Arkansas			
California			
Colorado			
Connecticut			

	\$ Bil.	Mil.	Thou.
Delaware			
District of Columbia			
Florida			
Georgia			
Hawaii			
Idaho			
Illinois			

Question continues on next page

1•10

(Continued)

Indiana				North Carolina			
Iowa				North Dakota			
Kansas				Ohio			
Kentucky				Oklahoma			
Louisiana				Oregon			
Maine				Pennsylvania			
Maryland				Rhode Island			
Massachusetts				South Carolina			
Michigan				South Dakota			
Minnesota				Tennessee			
Mississippi				Texas			
Missouri				Utah			
Montana				Vermont			
Nebraska				Virginia			
Nevada				Washington			
New Hampshire				West Virginia			
New Jersey				Wisconsin			
New Mexico				Wyoming			
New York				Total (equals Question 1•6)			

1•11

At what domestic location did your company perform the largest dollar amount of R&D in 2008?

Address 1			
Address 2			
City		State	
		ZIP	

1•12

What percentage of the domestic R&D performance reported in Question 1•6 was from the location identified in Question 1•11?

	%
--	---

1•13

How much of the following two sales and operating revenue amounts were for each **business segment** listed or amended on page 4 of this form:

- (1) Worldwide net sales and operating revenues reported in Question 1•3
- (2) Domestic net sales and operating revenues reported in Question 1•4

If your company had only one business segment then skip to Question 1•15.

Business segment code (see page 4)	(1) Worldwide sales and revenues			(2) Domestic sales and revenues		
	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.
a. <input style="width: 100%; height: 20px;" type="text"/>						
b. <input style="width: 100%; height: 20px;" type="text"/>						
c. <input style="width: 100%; height: 20px;" type="text"/>						
d. <input style="width: 100%; height: 20px;" type="text"/>						
e. <input style="width: 100%; height: 20px;" type="text"/>						
f. <input style="width: 100%; height: 20px;" type="text"/>						
g. <input style="width: 100%; height: 20px;" type="text"/>						
h. <input style="width: 100%; height: 20px;" type="text"/>						
i. Less inter-segment eliminations—inter-segment sales and revenues that are eliminated in order to consolidate the business reporting segments						
j. Total						

Total equals Question 1•3 Total equals Question 1•4

1•14

How much of the following three R&D amounts were for each business segment listed or amended on page 4 of this form:

- (1) Worldwide R&D expense reported in Question 1•1
- (2) Domestic R&D expense reported in Question 1•5, line a, column 1
- (3) Domestic R&D performance reported in Question 1•6

If your company had only one business segment then skip to Question 1•15.

Allocate R&D that is applicable to more than one segment on a reasonable basis.

Allocation in proportion to operating revenues is acceptable unless some alternative allocation basis is more appropriate.

Example: Company C is headquartered in the United States. In 2008:

- Company C had a total worldwide R&D expense of \$100 million
- Company C had two segments: pharmaceuticals (32541) and medical supplies (33910).
- The pharmaceuticals segment operates only in the U.S. and the medical supplies segment operates only in Ireland.
- The pharmaceutical segment performed \$40 million of R&D at its U.S. facilities to develop new products
- The pharmaceutical segment paid another company \$20 million for pre-clinical research
- The medical supplies segment performed \$30 million of R&D at its facilities in Ireland to develop new products
- Company C performed \$10 million of R&D on scientific applications useful to both its segments at its corporate lab in the U.S.
- 70% of revenues were from pharmaceuticals and 30% were from medical supplies

Based on these facts, Company C would report the following for this question:

- In column 1, \$67 million ($40+20+10*70\%$) for the pharmaceutical segment and \$33 million ($30+10*30\%$) for the medical devices segment.
- In column 2, \$67 million ($40+20+10*70\%$) for the pharmaceutical segment and \$0 for the medical devices segment.
- In column 3, \$47 million ($40+10*70\%$) for the pharmaceutical segment and \$3 million ($10*30\%$) for the medical devices segment.

Business segment code (see page 4)	(1) Worldwide R&D expense			(2) Domestic R&D expense			(3) Domestic R&D performance		
	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.
a.									
b.									
c.									
d.									
e.									
f.									
g.									
h.									
i. Total									

Total equals Question 1•1

Total equals Question 1•5,
line a, column 1

Total equals Question 1•6

1•15

For each of the following categories, how much of your company's domestic capital expenditures in 2008 are for R&D operations?

- a. Structures
- b. Equipment
- c. Capitalized software
- d. All other capital expenditures
- e. **Total**

\$ Bil.	Mil.	Thou.

1•16

What is your company's projected 2009 worldwide R&D expense for the following categories?

- a. R&D performed at your company's domestic locations
- b. R&D performed at your company's foreign locations
- c. R&D performed by others not owned by your company such as contract research organizations, universities, and government labs
- d. **Total projected worldwide R&D expense for 2009**

\$ Bil.	Mil.	Thou.

Reporting information

1•17

Is the information in this section reported on a calendar year basis?

- Yes → **Continue**
- No → **Enter time period covered below:**

From (MM) (YYYY) To (MM) (YYYY)

From To

1•18

Approximately how long did it take to complete Section 1?

hours

Names of persons who provided data for this section

Title

End of Section 1

SECTION 2

R&D Management and Strategy

Who should answer this section?

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

SECTION 2 – R&D Management And Strategy

What does this section cover?

This section requests information about the characteristics of the R&D expenses your company reported in Section 1. This section requests information about your company's worldwide consolidated R&D and R&D your company performs in the domestic United States.

What is the reporting unit?

The reporting unit is your company, including all subsidiaries and divisions. Include operations of subsidiary companies, where there is more than 50 percent ownership. Also include data for discontinued operations.

What is the difference between *R&D expense* and *R&D performance*?

This section uses two different concepts to collect information about your company's R&D: an accounting concept, R&D expense, and a physical concept, R&D performance. The amount of R&D reported using these two concepts may differ.

R&D expense is based on accounting definitions used by your company. For more information refer to Financial Accounting Standards Board (FASB) Statement of Accounting Standards No. 2 (Accounting for Research and Development Costs). For this survey report R&D expense even if the amount is not considered material to your company.

Exclude:

- R&D from acquired companies prior to acquisition (in-process R&D)
- Costs for routine product testing, quality control, and technical services
- R&D funded or paid for by others not owned by your company (these costs are reported in Section 3).

R&D performance is based on the location where R&D was performed by your company. Exclude costs for R&D performed by others not owned by your company such as contract research organizations, universities, and federal laboratories.

What do the terms "worldwide" and "domestic" mean?

The term "worldwide" refers to all geographic locations including the United States. The term "domestic" refers to the 50 United States and the District of Columbia only.

How should dollar amounts be reported?

Report all dollar amounts rounded to the nearest thousands.

	\$Bil.	Mil.	Thou.
Example: If figure is \$179,125,628.00 report:		179	126

Are estimates acceptable?

Yes, estimates are acceptable. Please report all items to the best of your ability.

How should I answer a question that does not apply to my company?

Enter "0" if a question or category does not apply to your company.

What time period should be reported?

Report data for calendar year 2008, if possible, or for your company's fiscal year ending between April 2008 and March 2009.

NOTE: If your company was either purchased or ceased operations between April 1 and December 31, 2008, complete the survey for the period from January 1, 2008 to either the date of purchase or the date your company ceased operations.

2•1

Copy the amount reported in Question 1•1—your company's worldwide R&D expense in 2008.

\$ Bil.	Mil.	Thou.

This answer is used in Questions 2•4–2•16

2•2

Copy the amount reported in Question 1•6—your company's domestic R&D performance in 2008.

\$ Bil.	Mil.	Thou.

This answer is used in Questions 2•20–2•39

2•3

Copy the amount reported in Question 1•8, line i—R&D performed by others not owned by your company such as contract research organizations, universities, or government labs.

\$ Bil.	Mil.	Thou.

This answer is used in Questions 2•40–2•43

Worldwide R&D expense

2•4

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was directed toward business areas in which your company had no revenues before 2008?

Example: Company A is an automobile manufacturer. In 2008 it began R&D on the company's first motorcycle. Because Company A had no previous revenues for motorcycles, it is a new business area for the company. The expense for this R&D is included in the calculation for this question.

 %

2•5

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 involved science/technology that your company had not used in projects before 2008?

Example: Company B is an automobile manufacturer. In 2008 it began to explore using hydrogen fuel cells in its vehicles. Because Company B had not used this technology before 2008, it is new for the company. The expense for this R&D is included in the calculation for this question.

 %

2•6

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was both directed toward business areas in which your company had no revenues before 2008 and involved science/technology that had not been used by your company in other projects before 2008?

Example: Company C is an automobile manufacturer. In 2008 it began a project to develop the company's first motorcycle. At the same time, C begins to explore using hydrogen fuel cell technology in its vehicles—including motorcycles. Because motorcycle manufacturing is a new business area for C and the company had no experience with hydrogen fuel cell technology before 2008, it would include the hydrogen fuel cell R&D related to its motorcycle project in the calculation for this question.

 %

Worldwide R&D expense (cont.)

2•7

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was in the following categories in relation to the market(s) in which your company operates?

Example: Company D manufactures cookware. In 2008 it devotes 10% of its R&D expense to exploring the potential use in its products of a heat-conducting material currently used only by the aerospace industry. The remainder of D's R&D is focused on improving products and technology already used in the cookware market.

Based on these facts, Company D would report the following for this question:

- 10% in line a for its R&D in technology new to the cookware market
- 90% in line b for its R&D in technology currently used in its market

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| a. R&D in science/technology <u>new</u> to the market(s) in which your company operates | <input style="width: 90%; height: 20px;" type="text"/> % |
| b. R&D to improve upon, replicate, or adopt science/technology <u>currently in use</u> in the market(s) in which your company operates | <input style="width: 90%; height: 20px;" type="text"/> % |
| c. Total | <input style="width: 90%; height: 20px;" type="text" value="100"/> % |

R&D projects

2•8

As of January 1, 2008, how many R&D projects funded by your company (included in the R&D expense figure reported in Question 2•1) were active worldwide?

2•9

How many new R&D projects funded by your company worldwide were started in 2008?

2•10

In 2008, how many R&D projects funded by your company worldwide moved from R&D to production or marketing?

2•11

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for the single largest R&D project funded by your company?

 %

R&D agreements

2•12

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for R&D agreements?

R&D agreements involve two or more parties pooling resources and expertise to undertake R&D and share in any resulting intellectual property. R&D agreements involve shared risk and shared reward.

 %

2•13

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for R&D agreements with for-profit companies?

 %

2•14

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for R&D agreements with U.S. federal agencies or laboratories?

%

2•15

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for R&D agreements with universities, colleges, and academic researchers, including individual primary investigators?

%

2•16

What percentage of the worldwide R&D expense in 2008 reported in Question 2•1 was for R&D agreements with nonprofit organizations other than universities and colleges?

%

2•17

In 2008, how many new R&D agreements did your company enter into?

2•18

Did the new R&D agreements reported in Question 2•17 involve agreements with the following types of organizations?

- | | | | | |
|-------------------------------------------------------------------------------------------------------|--------------------------|-----|--------------------------|----|
| a. For-profit companies | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| b. U.S. federal agencies or laboratories | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| c. Universities, colleges, and academic researchers, including individual primary investigators | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| d. U.S. federal agencies or laboratories | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

2•19

Did the new R&D agreements reported in Question 2•17 involve relationships with any of the following?

- | | | | | |
|----------------------------|--------------------------|-----|--------------------------|----|
| a. Customers | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| b. Vendors/suppliers | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| c. Competitors | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

Domestic R&D performed by your company

2•20

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for the following categories?

- a. Research—planned, systematic pursuit of new knowledge or understanding %
- b. Development of new or significantly improved goods, services, or processes %
- c. **Total** 100 %

2•21

If you reported any research in Question 2•20, what percentage of that research was for the following categories?

- a. Applied research aimed at solving a specific problem or meeting a specific, recognized need %
- b. Basic research aimed at acquiring new knowledge or understanding without a specific application or use in view %
- c. **Total** 100 %

2•22

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was directed toward business areas in which your company had no revenues before 2008?

Example: Company E is an automobile manufacturer. In 2008 it began R&D at its U.S. facilities on the company's first motorcycle. Because Company E had no previous revenues for motorcycles, it is a new business area for the company. The costs for this R&D are included in the calculation for this question.

%

2•23

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 involved science/technology that your company had not used in projects before 2008?

Example: Company F is an automobile manufacturer. In 2008 it began to explore using hydrogen fuel cells in its vehicles at its U.S. R&D facility. Because Company F had not used this technology before 2008, it is new for the company. The costs for this R&D are included in the calculation for this question.

%

2•24

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was both directed toward business areas in which your company had no revenues before 2008 and involved science/technology that had not been used by your company in other projects before 2008?

Example: Company G is an automobile manufacturer. In 2008 it began a project to develop the company's first motorcycle. At the same time, G begins to explore using hydrogen fuel cell technology in its vehicles—including motorcycles—at its U.S. R&D facility. Because motorcycle manufacturing is a new business area for G and the company had no experience with hydrogen fuel cell technology before 2008, it would include the hydrogen fuel cell R&D related to its motorcycle project in the calculation for this question.

%

2•25

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was in the following categories in relation to the market(s) in which your company operates?

Example: Company H manufactures cookware. In 2008 10% of its domestic R&D performance is for exploring the potential use in its products of a heat-conducting material currently used only by the aerospace industry. The remainder of H's domestic R&D performance is focused on improving products and technology already used in the cookware market.

Based on these facts, Company H would report the following for this question:

- 10% in line a for its R&D in technology new to the cookware market
- 90% in line b for its R&D in technology currently used in its market

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------|
| a. R&D in science/technology <u>new</u> to the market(s) in which your company operates | % |
| b. R&D to improve upon, replicate, or adopt science/technology <u>currently in use</u> in the market(s) in which your company operates | % |
| c. Total | 100 % |

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

2•26

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 had defense applications including military applications and general security-related R&D?

 %

2•27

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 had health or medical applications?

 %

2•28

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 had energy applications, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?

Example: Company I is a semiconductor manufacturer. Its products are not designed specifically for energy applications, but 10% of its domestic R&D performance is focused on improving the energy efficiency of its products. Based on these facts, Company I reports "10%" for this question.

 %

2•29

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 had environmental protection applications including pollution abatement R&D?

 %

2•30

What percentage of the domestic R&D performance in 2008 reported in Question 2•2 had agricultural applications?

 %

Technology focus of domestic R&D performed by your company

2•31 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for software products? %

2•32 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for software embedded in other projects or products? %

2•33 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for the development of new or significantly improved processes? %

2•34 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for clinical trials of medical products (goods and services)? %

2•35 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for the production of prototypes? %

2•36 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for the operation of pilot plants? %

2•37 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for biotechnology—the use of cellular and bio-molecular processes to solve problems or make useful products—R&D? %

2•38 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for nanotechnology—science and technology involving work at the nanometer scale—R&D? %

2•39 What percentage of the domestic R&D performance in 2008 reported in Question 2•2 was for social sciences—the application of scientific methods to the study of human aspects of the world, including such disciplines as economics and psychology—R&D? %

R&D performed by others

2•40 What percentage of the R&D performed by others reported in Question 2•3 was for the following categories?

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

b. Development of new or significantly improved goods, services, or processes %

c. **Total** 100 %

2•41

If you reported any research in Question 2•40, what percentage of that research was for the following categories?

- | | |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| a. <u>Applied research</u> aimed at solving a specific problem or meeting a specific, recognized need | <input type="text"/> % |
| b. <u>Basic research</u> aimed at acquiring new knowledge or understanding without a specific application or use in view | <input type="text"/> % |
| c. Total | <input type="text" value="100"/> % |

2•42

What percentage of the R&D performed by others reported in Question 2•3 was for clinical trials of medical products (goods and services)?

 %

2•43

What percentage of the R&D performed by others reported in Question 2•3 was for the production of prototypes?

 %

Activities with academia

2•44

Did your company perform any of the following activities with universities, students, or academic faculty in 2008?

- | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|--------------------------|----|
| a. Hired academic consultants for short-term projects in science and engineering | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| b. Hosted student interns pursuing undergraduate or graduate degrees in science or engineering for at least one month | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| c. Hosted post-doctoral fellows in science or engineering for at least one month | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| d. Scientists or engineers from your company served as visiting scientists or engineers at a college or university for at least one month | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| e. Made monetary gifts to universities or colleges that were restricted to supporting R&D | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

Company characteristics

2•45

Are the following statements true for your company?

- | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|--------------------------|----|
| a. This company has been in business for 5 or fewer years as of Dec. 31, 2008 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| b. This company's primary mission is to commercialize science/technology discovered or developed by academic researchers | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| c. This company had establishments located in science parks in 2008 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| d. This company received venture capital funding in 2008 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

Reporting information

2.46

Is the information in this section reported on a calendar year basis?

Yes → Continue

No → Enter time period covered below:

From (MM) (YYYY) To (MM) (YYYY)

From	<input type="text"/>	<input type="text"/>	To	<input type="text"/>	<input type="text"/>
------	----------------------	----------------------	----	----------------------	----------------------

2.47

Approximately how long did it take to complete Section 2?

hours

Names of persons who provided data for this section

Title

End of Section 2

SECTION 3

R&D Funded or Paid for by others

Who should answer this section?

Persons familiar with accounting concepts and with access to financial records related to your company's R&D activities that are funded or paid for by others (funded R&D) including R&D paid for by customers and R&D supported by government grants.

SECTION 3 – R&D Funded or Paid for by Others

What does this section cover?

This section requests information about your company's R&D activities that are funded or paid for by others not owned by your company (funded R&D).

What is the reporting unit?

The reporting unit is your company, including all subsidiaries and divisions. Include operations of subsidiary companies, where there is more than 50 percent ownership. Also include data for discontinued operations.

What is funded R&D?

Funded R&D is R&D your company performs that is funded or paid for by others not owned by your company. Examples of funded R&D include R&D performed under contract for a customer, R&D supported by a government grant, and R&D that is performed under a reimbursable agreement with business partners.

Because the costs for this work are not paid for by your company they are not accounted for as R&D expenses, even though the nature of the work may be identical to other activities that are accounted for as R&D expenses by your company.

What is R&D performance?

This section requests information about your company's performance of funded R&D. Report costs for R&D performance based on the location where the R&D was carried out.

Exclude:

- Costs for routine product testing, quality control, and technical services
- R&D performed by others not owned by your company such as subcontractors
- Payments in excess of the actual cost of the R&D (such as profits or fees)

What do the terms "worldwide" and "domestic" mean?

The term "worldwide" refers to all geographic locations including the United States. The term "domestic" refers to the 50 United States and the District of Columbia only.

How should dollar amounts be reported?

Report all dollar amounts rounded to the nearest thousands.

	\$Bil.	Mil.	Thou.
Example: If figure is \$179,125,628.00 report:		179	126

Are estimates acceptable?

Yes, estimates are acceptable. Please report all items to the best of your ability.

How should I answer a question that does not apply to my company?

Enter "0" if a question or category does not apply to your company.

What time period should be reported?

Report data for calendar year 2008, if possible, or for your company's fiscal year ending between April 2008 and March 2009.

NOTE: If your company was either purchased or ceased operations between April 1 and December 31, 2008, complete the survey for the period from January 1, 2008 to either the date of purchase or the date your company ceased operations.

Worldwide R&D performance funded by others

3•1

What was the cost of R&D performed by your company worldwide in 2008 that was funded or paid for by others not owned by your company?

Include:

- Cost of sales for contract R&D services provided to other parties not owned by your company
- Costs for R&D supported by grants from government agencies and private foundations
- Costs paid for by others for the development, production, and testing of prototypes prior to their introduction to the market
- Costs paid for by others for phase I - III clinical trials of medical products
- Independent research and development (IR&D) costs for which your company anticipates reimbursement by the U.S. government through indirect charges on government contracts

Exclude:

- Payments in excess of the actual cost of the R&D (such as profits or fees)
- Costs accounted for as R&D expenses by your company (reported in Section 1)
- Costs for routine testing of products currently on the market
- Costs for phase IV clinical trials or other post-marketing testing performed for medical products
- Costs for R&D performed by FFRDCs (Federally Funded Research and Development Centers) your company administers
- Bid and proposal (B&P) costs

\$ Bil.	Mil.	Thou.

This answer is used in Questions 3•2, 3•3, and 3•5

3•2

Was the amount entered in Question 3•1 greater than zero?

- Yes → Continue to Question 3•3
- No → Skip to Section 4

3•3

How much of the 2008 worldwide R&D performance funded by others reported in Question 3•1 was independent research and development (IR&D) costs for which your company anticipates reimbursement by the U.S. government through indirect charges on government contracts?

\$ Bil.	Mil.	Thou.

Funded R&D projects

3•4

As of January 1, 2008, how many funded R&D projects (included in the amount reported in Question 3•1) were active worldwide?

3•5

How many new funded R&D projects were started in 2008 worldwide?

3•6

What percentage of the 2008 worldwide R&D performance funded by others reported in Question 3•1 was for the single largest R&D project funded by others?

 %

3•9

How much of the domestic R&D performance funded by others reported in Question 3•7 was for the following types of costs?

a. Gross annual payroll—wages and salaries of R&D employees and officers excluding fringe benefits

\$ Bil.	Mil.	Thou.

b. Employer's cost for fringe benefits

--	--	--

Include:

- Disability benefits
- Life and medical insurance
- Paid holidays, time off benefits, vacation, annual, sick, and maternity leave
- Retirement benefits, pension, and social security contributions

c. Temporary staffing and leased employees

--	--	--

Include:

- Costs paid to Professional Employer Organizations (PEOs) and staffing agencies for personnel
- All charges for payroll, benefits and services

d. Expensed equipment

--	--	--

e. Materials and supplies

--	--	--

f. Lease and rental payments

--	--	--

g. Depreciation and amortization on R&D property and equipment

--	--	--

h. Stock based compensation

--	--	--

i. All other costs

--	--	--

j. **Total** (equals Question 3•7)

--	--	--

3•10

How much of the domestic R&D performance funded by others reported in Question 3•7 was performed under each of the following types of agreements?

a. Contracts (include prime contracts and subcontracts)

\$ Bil.	Mil.	Thou.

b. Grants, reimbursements, and all other agreements

--	--	--

c. **Total** (equals Question 3•7)

--	--	--

3•11

How much of the domestic R&D performance funded by others reported in Question 3•7 was funded by each of the following?

Example: Company K is a car manufacturer and company L is a glass manufacturer. In 2008 company K is awarded a U.S. government contract to develop a new type of armored car. Company K performs some of the R&D itself and subcontracts the development of the car's bulletproof glass windshield to Company L. Both company K and company L would include their R&D costs for this project in the calculation for line c of this question.

- a. Other companies located in the United States
- b. Other companies located outside the United States
- c. U.S. federal government agencies or laboratories
- d. U.S. state government agencies or laboratories (50 United States and DC)
- e. Foreign government agencies or laboratories
- f. All other organizations in the United States
- g. All other organizations located outside the United States
- h. **Total** (equals question 3•7)

\$ Bil.	Mil.	Thou.

3•12

Add lines a and b of Question 3•11 and enter the total here. This is the total amount of your company's domestic R&D performance that was funded by other companies.

\$ Bil.	Mil.	Thou.

*This answer is used in
Question 3•13*

3•13

How much of the R&D funded by other companies reported in Question 3•12 was funded by the following types of companies?

- a. Pharmaceuticals
- b. Motor vehicles
- c. Computer and electronic products
- d. All other companies
- e. **Total** (equals question 3•12)

\$ Bil.	Mil.	Thou.

3•14

How much of the R&D funded by U.S. federal government agencies or laboratories reported in Question 3•11, line c was funded by the following agencies?

	\$ Bil.	Mil.	Thou.
a. Department of Defense			
b. Department of Energy			
c. National Institutes of Health			
d. National Aeronautics and Space Administration			
e. All other			
f. Total (equals question 3•11, line c)			

3•15

How much of the following three funded R&D amounts were performed in each state (including D.C.):

- (1) R&D funded by the U.S. federal government reported in Question 3•11, line c
- (2) R&D funded by all nonfederal sources
- (3) Total domestic R&D performance funded by others reported in Question 3•7

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

Question continues on next page

	(1) Federal			(2) Nonfederal			(3) Total		
	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.	\$ Bil.	Mil.	Thou.
Illinois									
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey									
New Mexico									
New York									
North Carolina									
North Dakota									
Ohio									
Oklahoma									

Question continues on next page

3•15

(Continued)

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

Total equals Question 3•11,
line c

Total equals Question 3•7

3•16

What are your company's **worldwide** projected costs in **2009** for R&D performance funded or paid for by others?

\$ Bil.	Mil.	Thou.

3•17

What are your company's projected costs in **2009** for **domestic** R&D performance funded or paid for by others?

\$ Bil.	Mil.	Thou.

Characteristics of domestic R&D performance funded by others

3•18	What percentage of the domestic R&D performance funded by others reported in Question 3•7 was for the following categories?	
	a. <u>Research</u> —planned, systematic pursuit of new knowledge or understanding	<input type="text"/> %
	b. <u>Development</u> of new or significantly improved goods, services, or processes	<input type="text"/> %
	c. Total	100 %
3•19	If you reported any research in Question 3•18, what percentage of that research was for the following categories?	
	a. <u>Applied research</u> aimed at solving a specific problem or meeting a specific, recognized need	<input type="text"/> %
	b. <u>Basic research</u> aimed at acquiring new knowledge or understanding without a specific application or use in view	<input type="text"/> %
	c. Total	100 %
3•20	What percentage of the domestic R&D performance funded by others reported in Question 3•7 was for <u>clinical trials</u> (phases I, II, and III) of medical products (goods and services)?	<input type="text"/> %
3•21	What percentage of the domestic R&D performance funded by others reported in Question 3•7 was for the <u>production of prototypes</u>?	<input type="text"/> %
3•22	What percentage of the domestic R&D performance funded by others reported in Question 3•7 had <u>defense applications</u> including military applications and general security-related R&D?	<input type="text"/> %
3•23	What percentage of the domestic R&D performance funded by others reported in Question 3•7 had <u>health or medical applications</u>?	<input type="text"/> %
3•24	What percentage of the domestic R&D performance funded by others reported in Question 3•7 had <u>energy applications</u>, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?	
	Example: Company L is a semiconductor manufacturer. Its products are not designed specifically for energy applications, but 10% of its domestic R&D performance is focused on improving the energy efficiency of its products. Based on these facts, Company L reports “10%” for this question.	<input type="text"/> %

3•25

What percentage of the domestic R&D performance funded by others reported in Question 3•7 had environmental protection applications including pollution abatement R&D?

 %

3•26

What percentage of the domestic R&D performance funded by others reported in Question 3•7 had agricultural applications?

 %

Characteristics of domestic R&D performance funded by the federal government

3•27

What percentage of the domestic R&D performance funded by U.S. federal government agencies or laboratories reported in Question 3•11, line c was for the following categories?

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

 %

b. Development of new or significantly improved goods, services, or processes

 %

c. **Total**

 %

3•28

If you reported any research in Question 3•18, what percentage of that research was for the following categories?

a. Applied research aimed at solving a specific problem or meeting a specific, recognized need

 %

b. Basic research aimed at acquiring new knowledge or understanding without a specific application or use in view

 %

c. **Total**

 %

3•29

What percentage of the domestic R&D performance funded by U.S. federal government agencies or laboratories reported in Question 3•11, line c was for the production of prototypes?

 %

Reporting information

3.30 Is the information in this section reported on a calendar year basis?

Yes → **Continue**

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

From (MM) (YYYY) To (MM) (YYYY)

From			To		
------	--	--	----	--	--

3.31 Approximately how long did it take to complete Section 3?

hours

Names of persons who provided data for this section

Title

End of Section 3

SECTION 4

R&D 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. Refer to page 1 for the definition of R&D.

SECTION 4 – R&D Human Resources

What does this section cover?

This section requests information about your company's employees, focusing on those who worked on R&D activities either full- or part-time.

What is the reporting unit?

The reporting unit is your company, including all subsidiaries and divisions. Include operations of subsidiary companies, where there is more than 50 percent ownership. Also include data for discontinued operations.

Who are R&D employees?

R&D employees include all employees providing direct support to either R&D projects paid for by your company **or** R&D projects paid for by others not owned by your company such as R&D your company performs under a grant or contract. Include scientists and engineers working on R&D projects as well as R&D managers, administrators, clerical staff, and interns providing direct support to R&D projects.

R&D employees do not include staff providing indirect support such as security guards and cafeteria workers. Leased employees, temps, and on-site consultants should not be counted as R&D employees..

What is a full time equivalent (FTE)?

A full time equivalent takes into account employees who do not work full time or for employees who do not work on R&D activities full time. For example, an employee who works half-time would be counted as one employee on a headcount basis but as one-half (1/2) an FTE employee. Similarly, a full-time employee hired in June would be counted as one-half (1/2) an FTE employee. The number of FTEs and the headcount may differ for your company.

What do the terms “worldwide” and “domestic” mean?

The term “worldwide” refers to all geographic locations including the United States.
The term “domestic” refers to the 50 United States and the District of Columbia only.

Are estimates acceptable?

Yes, estimates are acceptable. Please report all items to the best of your ability.

How should I answer a question that does not apply to my company?

Enter “0” if a question or category does not apply to your company.

What time period should be reported?

Report data for calendar year 2008, if possible, or for your company's fiscal year ending between April 2008 and March 2009.

NOTE: If your company was either purchased or ceased operations between April 1 and December 31, 2008, complete the survey for the period from January 1, 2008 to either the date of purchase or the date your company ceased operations.

4•1

What was the total number of employees working at your company worldwide for the pay period that included March 12, 2008?

Include:

- For the domestic employees, all employees whose payroll was reported on IRS Form 941, Employer's Quarterly Federal Tax Return
- Employees in all activities during the pay period that included March 12, 2008
- Employees on paid sick leave, paid holidays, and paid vacations during the pay period that included March 12, 2008

Exclude:

- Leased or temporary employees and on-site consultants

4•2

How many of the following worldwide employees reported in Question 4•1 worked on R&D activities:

- (1) **Worldwide female employees, by occupation**
- (2) **Worldwide male employees, by occupation**
- (3) **Total worldwide employees, by occupation**

Include:

- R&D managers, administrators, clerical staff, and interns

Exclude:

- Staff providing indirect support such as security guards and cafeteria workers

	(1) Female employees	(2) Male employees	(3) Total employees
a. R&D engineers and their managers	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. R&D scientists and their managers (not already reported in line a)	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. R&D technicians and technologists	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. R&D support staff (clerical and other)	<input type="text"/>	<input type="text"/>	<input type="text"/>
e. Total R&D employees	<input type="text"/>	<input type="text"/>	<input type="text"/>

4•3

Add lines a and b of Question 4•3 and enter the total here. This is the total number of R&D scientists and engineers employed by your company.

This answer is used in Question 4•4

4•4

Of the R&D scientists and engineers reported in Question 4•3, how many had the following as their highest level of educational attainment?

a. College level degrees below the PhD level	<input type="text"/>
b. PhD or equivalent	<input type="text"/>
c. All other	<input type="text"/>
d. Total R&D scientists and engineers (equals question 4•3)	<input type="text"/>

Domestic employees

4•5

How many of the worldwide employees reported in Question 4•1 were domestic employees—employed by your company’s domestic operations?

Include:

- All employees whose payroll was reported on IRS Form 941, Employer’s Quarterly Federal Tax Return
- Employees on paid sick leave, paid holidays, and paid vacations during the pay period that included March 12, 2008

This answer is used in Question 4•6

4•6

How many of the following domestic employees reported in Question 4•5 worked on R&D activities:

- (1) Domestic female employees, by occupation
- (2) Domestic male employees, by occupation
- (3) Total worldwide employees, by occupation

Include:

- R&D managers, administrators, clerical staff, and interns

Exclude:

- Staff providing indirect support such as security guards and cafeteria workers

	(1) Female employees	(2) Male employees	(3) Total employees
a. R&D engineers and their managers	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. R&D scientists and their managers (not already reported in line a)	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. R&D technicians and technologists	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. R&D support staff (clerical and other)	<input type="text"/>	<input type="text"/>	<input type="text"/>
e. Total R&D employees	<input type="text"/>	<input type="text"/>	<input type="text"/>

4•7

Add lines a and b of Question 4•3 and enter the total here. This is the total number of domestic R&D scientists and engineers employed by your company.

This answer is used in Questions 4•8 and 4•9

4•8

Of the domestic R&D scientists and engineers reported in Question 4•7, how many had the following as their highest level of educational attainment?

a. College level degrees below the PhD level	<input type="text"/>
b. PhD or equivalent	<input type="text"/>
c. All other	<input type="text"/>
d. Total R&D scientists and engineers (equals question 4•7)	<input type="text"/>

4•9

How many of the R&D scientists and engineers reported in Question 4•7 were non-U.S. citizens employed in the United States under a temporary visa such as an H-1B or L-1?

Full-time equivalents (FTEs)

4•10

What was the number of domestic full-time equivalents (FTEs) engaged in R&D activities during 2008?

Full-time equivalents account for R&D employees who do not work full time and employees who do not work on R&D activities full time. For example, an employee who works half-time would be counted as one employee on a headcount basis but as one-half (1/2) an FTE employee. Similarly, a full-time employee hired in June would be counted as one-half (1/2) an FTE employee. The number of FTEs and the headcount may differ for your company.

This answer is used in Question 4•11

4•11

How many of the domestic R&D FTEs reported in Question 4•10 were engaged in R&D activities funded by U.S. federal government grants or contracts during 2008?

Reporting information

4•12

Is the information in this section reported on a calendar year basis?

- Yes → **Continue**
- No → **Enter time period covered below:**

From (MM) (YYYY) To (MM) (YYYY)

4•13

Approximately how long did it take to complete Section 4?

 hours

Names of persons who provided data for this section

Title

End of Section 4

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SECTION 5

Intellectual Property, Technology Transfer, and Innovation

Who should answer this section?

Persons with knowledge of your company's patenting, licensing, and other intellectual property (IP) related activities as well as an understanding of your company's general business strategy should complete this section.

SECTION 5 – Intellectual Property, Technology Transfer, and Innovation

What does this section cover?

This section requests information about intellectual property (IP), technology transfer activities, and actions taken to improve company performance such as:

- Patents
- Patent licensing
- Protection of IP
- Transfer of IP
- Innovation activity

What is the reporting unit?

The reporting unit is your company, including all subsidiaries and divisions. Include operations of subsidiary companies, where there is more than 50 percent ownership. Also include data for discontinued operations.

Are estimates acceptable?

Yes, estimates are acceptable. Please report all items to the best of your ability.

How should I answer a question that does not apply to my company?

Enter "0" if a question or category does not apply to your company.

What time period should be reported?

Report data for calendar year 2008, if possible, or for your company's fiscal year ending between April 2008 and March 2009.

NOTE: If your company was either purchased or ceased operations between April 1 and December 31, 2008, complete the survey for the period from January 1, 2008 to either the date of purchase or the date your company ceased operations.

5•1

Did your company introduce any of the following activities during the years **2006** through **2008**?

- a. New or significantly improved goods (excluding the simple resale of new goods purchased from others and changes of a solely aesthetic nature) Yes No
- b. New or significantly improved services Yes No
- c. New or significantly improved methods of manufacturing or producing goods or services Yes No
- d. New or significantly improved logistics, delivery, or distribution methods for your inputs, goods or services Yes No
- e. New or significantly improved supporting activities for your processes, such as maintenance systems or operations for purchasing, accounting, or computing Yes No

Patents

5•2

In 2008, did your company own, apply for, or have pending any utility patents—patents for invention—from the U.S. Patent and Trademark Office (USPTO)?

- Yes → Continue to Question 5•3
- No → Skip to Question 5•10

5•3

How many U.S. utility patents did your company apply for in 2008?

This answer is used in Questions 5•4 and 5•5

5•4

What percentage of the patent applications reported in Question 5•3 has your company applied for or plan to apply for patents in foreign jurisdictions?

 %

5•5

What percentage of the patent applications reported in Question 5•3 were for inventions that originated outside of your company’s organized R&D activities?

 %

5•6

How many U.S. utility patents were issued to your company in 2008 by the USPTO?

5•7

What percentage of your company’s inventions considered for patenting in 2008 resulted in patent applications?

 %

Patent licensing

5•8

How many new agreements did your company enter into in 2008 to license patents to others not owned by your company?

5•9

What is the average royalty rate as a percentage of gross sales—the sum of the rates for each of the agreements divided by the number of agreements—of the licensing agreements reported in Question 5•8 that involved royalty payments?

 %

Intellectual property transfer activities

5•10

Did your company perform the following activities in 2008?

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| a. Participated in technical assistance or “know-how” agreements to <u>transfer</u> intellectual property (IP) to others not owned by your company | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| b. Participated in technical assistance or “know-how” agreements to <u>receive</u> IP from others not owned by your company | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| c. Transferred IP to a spin out or spin off of your company | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| d. Received IP from a parent company as part of a spin out or spin off | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| e. Acquired more than 50% ownership in another company for the primary purpose of acquiring their IP | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| f. Acquired any financial interest in another company in order to gain access to their IP | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| g. Participated in cross-licensing agreements—agreements in which two or more parties grant a license to each other for the use of the subject-matter claimed in one or more of the patents owned by each party | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |
| h. Allowed free use of patents or other IP owned by your company (for example, allowing free use of software patents by the open source community) | <input type="checkbox"/> | <input type="checkbox"/> |
| | Yes | No |

Intellectual property protection

5•11

During 2008, how important to your company were the following types of intellectual property protection?

- | | Very important | Somewhat important | Not important |
|-----------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| a. Patents | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Trademarks | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Copyrights | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Mask works (copyright protection for semiconductor products) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Trade secrets | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Reporting information

5.12 Is the information in this section reported on a calendar year basis?

Yes → **Continue**

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

From (MM) (YYYY) To (MM) (YYYY)

From	<input type="text"/>	<input type="text"/>	To	<input type="text"/>	<input type="text"/>
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5.13 Approximately how long did it take to complete Section 5?

hours

Names of persons who provided data for this section

Title

End of Section 5

Business segment codes (used in Section 1 and Section 3)

Aerospace & Defense

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

Automobiles, Motorcycles & Components

- 33610 Motor vehicles manufacturing
- 33620 Motor vehicle body and trailer manufacturing
- 33630 Motor vehicle parts manufacturing
- 33691 Motorcycle, bicycle, and parts manufacturing
- 33699 All other transportation equipment manufacturing

Capital Goods

- 33430 Audio and video equipment manufacturing
- 33330 Commercial, service industry, temperature control, and air-flow control machinery manufacturing
- 33312 Construction machinery manufacturing
- 23600 Construction of buildings
- 33360 Engine, turbine, and power transmission equipment manufacturing
- 33200 Fabricated metal products manufacturing
- 33311 Farm machinery and equipment manufacturing
- 23700 Heavy and civil engineering construction
- 33322 Industrial machinery manufacturing, except semiconductor machinery
- 33390 Metalworking and other general purpose machinery manufacturing
- 33313 Mining machinery and equipment manufacturing
- 33651 Railroad rolling stock manufacturing
- 33660 Ship and boat building
- 23800 Specialty trade contractors

Commercial and Professional Services (including contract research)

- 54120 Accounting, tax preparation, bookkeeping and payroll services
- 54180 Advertising and related services
- 54130 Architectural, engineering, and related services
- 56140 Business support services
- 53240 Commercial and industrial machinery and equipment rental and leasing
- 54110 Legal services
- 54160 Management, scientific, and technical consulting services
- 56190 Office administrative, facilities, employment, and other support services
- 54190 Professional, scientific, and technical services (Not listed elsewhere in this category)
- 32300 Printing and related support activities
- 56290 Remediation and other waste management services

- 54170 Scientific research & development services
- 54140 Specialized design services
- 56150 Travel arrangement and reservation services
- 56210 Waste collection, treatment, and disposal

Consumer Goods & Services

- 71300 Amusement, gambling, and recreation industries
- 31500 Apparel manufacturing
- 33430 Audio and video equipment manufacturing
- 81110 Automotive repair and maintenance
- 31210 Beverage manufacturing
- 51520 Cable and other subscription programming (except Internet)
- 62440 Child day care services
- 44800 Clothing and clothing accessories stores
- 23600 Construction of buildings
- 53220 Consumer goods and general rental centers
- 61100 Educational services
- 33500 Electrical equipment, appliances, and components manufacturing
- 45410 Electronic shopping and mail-order houses
- 44300 Electronics and appliance stores
- 44500 Food and beverage stores
- 31100 Food manufacturing
- 72200 Food services and drinking places
- 33700 Furniture and related products manufacturing
- 45200 General merchandise stores
- 51600 Internet publishing and broadcasting
- 56160 Investigation, security, and services to buildings and dwellings
- 31600 Leather and allied products manufacturing
- 33990 Miscellaneous manufacturing (Not elsewhere listed in this category)
- 51200 Motion picture and sound recording (except Internet)
- 44100 Motor vehicle and parts dealers
- 71200 Museums, historical sites, and similar institutions
- 51110 Newspaper, periodical, book, and directory
- 45490 Nonstore retailers, except electronic shopping and mail-order houses
- 71100 Performing arts, spectator sports, and related industries
- 81200 Personal care, death care, laundry, and other personal services
- 51510 Radio and television broadcasting (except Internet)
- 81190 Repair and maintenance, except automotive
- 45990 Retail trade stores, including gasoline stations (Not elsewhere listed in this category)
- 32591 Soap, cleaning compound, and toilet preparations manufacturing
- 62400 Social assistance (except child day care services)
- 31300 Textile mill products
- 31220 Tobacco manufacturing
- 56150 Travel arrangement and reservation services
- 72100 Traveler accommodation services

Energy

- 21210 Coal mining
- 22110 Electric power generation, transmission, and distribution
- 21100 Oil and gas extraction
- 33313 Oil and gas field machinery and equipment manufacturing

- 32400 Petroleum and coal products manufacturing
- 48610 Pipeline transportation of crude oil, refined petroleum, and miscellaneous products, except natural gas
- 48620 Pipeline transportation of natural gas
- 21300 Support activities for oil and gas operations

Financials

- 52230 Activities related to credit intermediation
- 52420 Agencies, brokerages, and other insurance related activities
- 52210 Depository credit intermediation
- 52500 Funds, trusts, and other financial vehicles
- 52410 Insurance carriers
- 52100 Monetary authorities-central bank
- 52220 Nondepository credit intermediation
- 53100 Real estate
- 52300 Securities, commodity contracts, and other financial investments and related activities

Health Care

- 33451 Electromedical, electrotherapeutic and irradiation apparatus manufacturing
- 62210 General medical and surgical hospitals
- 62160 Home health care services
- 32543 In-vitro diagnostic substances manufacturing
- 62150 Medical and diagnostic laboratories
- 33910 Medical equipment and supplies manufacturing
- 62300 Nursing and residential care facilities
- 62120 Offices of dentists and other health practitioners
- 62110 Offices of physicians
- 62190 Outpatient care centers and other ambulatory health care services
- 32541 Pharmaceutical, medicinal, botanical, and biological products (except diagnostic) manufacturing
- 62220 Psychiatric, substance abuse, and specialty hospitals
- 54170 Scientific research & development services

Information Technology - Goods and services

- 33429 Communication equipment manufacturing, except broadcasting, wireless, and telephone apparatus
- 54150 Computer systems design and related services
- 33410 Computers and peripheral equipment manufacturing
- 51820 Data processing, hosting, and related services
- 33500 Electrical equipment, appliances, and components manufacturing
- 51900 Information services (Not elsewhere listed in this category)
- 51810 Internet service providers and web search portals
- 33460 Manufacturing and reproducing magnetic and optical media manufacturing
- 33459 Measuring and control instruments manufacturing (Not listed elsewhere in this category)
- 33422 Radio and television broadcasting and wireless communications equipment manufacturing
- 33452 Search, detection, navigation, guidance, aeronautical, and nautical system and instruments manufacturing
- 33440 Semiconductor and other electronic components manufacturing
- 33321 Semiconductor machinery manufacturing
- 51120 Software

- 33421 Telephone apparatus manufacturing

Materials

- 32511 Basic chemicals manufacturing
- 32790 Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing
- 32710 Clay and glass products manufacturing
- 33150 Ferrous and nonferrous foundries
- 33110 Iron and steel mills, ferroalloy, and steel product from purchased steel
- 21220 Metal ore mining
- 33130 Nonferrous metals production and processing
- 21230 Nonmetallic mineral mining and quarrying
- 32592 Paint, adhesive, and other chemical manufacturing
- 32200 Paper manufacturing
- 32530 Pesticide, fertilizer, and other agricultural chemical manufacturing
- 32600 Plastics and rubber products manufacturing
- 32512 Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing
- 32591 Soap, cleaning compound, and toilet preparations manufacturing
- 21310 Support activities for solid mineral operations
- 32100 Wood products manufacturing

Telecommunication Services

- 51750 Cable and other program distribution
- 51740 Satellite telecommunications
- 51790 Telecommunications services (Not listed elsewhere in this category)
- 51710 Wired telecommunications carriers
- 51720 Wireless telecommunications carriers (except satellite)

Transportation

- 48100 Air transportation
- 53210 Automotive equipment rental and leasing
- 49200 Couriers and messengers
- 48200 Rail transportation
- 48700 Scenic and sightseeing transportation
- 48800 Support activities for transportation
- 48500 Transit and ground passenger transportation
- 48400 Truck transportation
- 49300 Warehousing and storage
- 48300 Water transportation

Utilities

- 22110 Electric power generation, transmission, and distribution
- 22120 Natural gas distribution
- 56290 Remediation and other waste management services
- 56210 Waste collection, treatment, and disposal
- 22130 Water, sewage, and other systems

Remarks (Please use the space below for any explanations that may help us understand your reported data.)

We estimate that it will take from .5 to 25 hours to complete this form, with 14.9 hours being the average. This includes time to read instructions, develop or assemble material, conduct tests, organize and review the information, and maintain and report the information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to:

Paperwork Project xxxx-xxxx,
U.S. Census Bureau,
4600 Silver Hill Road,
AMSD-3K138,
Washington, D.C. 20233.

You may e-mail comments to Paperwork@census.gov; use "Paperwork Project xxxx - xxxx" as the subject.

~ Thank you for completing your 2008 Business R&D and Innovation Survey ~

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