

# 2015 BUSINESS R&D AND INNOVATION SURVEY

OMB No. 0607-0912: Approval Expires 12/31/2015

#### **DUE DATE:**

#### Report electronically:

https://econhelp.census.gov/brdis 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 **not** mail in the paper form.

U.S. CENSUS BUREAU 1201 East 10th Street Jeffersonville, IN 47132-0001

## For information or assistance:

- https://econhelp.census. gov/brdis
- Call 1-800-772-7851, option "5" (8 a.m.– 4:45 p.m. EST, M-F)
- Write to the address above. Include your 11-digit ID printed on the mailing label.

(Please correct any errors in this mailing address)

#### 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.

#### 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.

#### About the Business R&D and Innovation Survey

The Business R&D and Innovation Survey is a national survey that collects critical information about research and experimental 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.

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

#### Thank You – Your Response is Important

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
Topics: company ownership, business(es), revenues, and innovation Requires: knowledge of the company's sales and revenues
Section 2: Financial Schedule A
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

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**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

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**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 2014 survey

On the basis of extensive conversations with many of the 2014 survey respondents, the 2015 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 <a href="https://econhelp.census.gov/brdis">https://econhelp.census.gov/brdis</a>.

#### 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 Experimental Development (R&D)?

R&D is planned, creative work aimed at discovering new knowledge or developing new or significantly improved goods and services. 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 use of research and practical experience to produce new or significantly improved goods, services, or processes (experimental development).

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 experimental 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 2015, if possible, or for your company's fiscal year ending between April 2015 and March 2016.

#### 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									
1-1	Was	your company a majority-owned subsidiary of a foreign company in 2015?									
		Yes → Please provide the following information and then skip to Question 1-3:									
		Name of parent company									
	REPORTING INSTRUCTIONS FOR FOREIGN-OWNED COMPANIES:  If you are owned by a foreign parent, the reporting unit for the survey is your U.Slocal company, including all your majority-owned subsidiaries and divisions regardless of local reporting purposes, your foreign parent and any foreign affiliates your company does a should be treated the same as any business partner, customer, or supplier you do not be should be treated the same as any business partner.										
		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	Did a	another U.S. company other than a holding company own more than 50 percent e voting interest in your company during 2015?									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent e voting interest in your company during 2015?									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent e voting interest in your company during 2015?  Yes → Please provide the following information:									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent the voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company  EIN of owner (9 digits) (MM) (DD) (YYYY)									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent se voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company									
1-2	Did a	another U.S. company other than a holding company own more than 50 percent to voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company  EIN of owner (9 digits)  Date parent company purchased									
1-2	Did a of th	Another U.S. company other than a holding company own more than 50 percent the voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company  EIN of owner (9 digits)  Date parent company purchased your company  REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES:  If your company was purchased between April 1, 2015 and December 31, 2015, report only for the period January 1, 2015 to the date of purchase. If your company was purchased before April 1, 2015, 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									
1-2	Did a of th	Amother U.S. company other than a holding company own more than 50 percent the voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company  EIN of owner (9 digits)  Date parent company purchased your company  REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES:  If your company was purchased between April 1, 2015 and December 31, 2015, report only for the period January 1, 2015 to the date of purchase. If your company was purchased before April 1, 2015, 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.									
1-2	Did a of th	Amother U.S. company other than a holding company own more than 50 percent the voting interest in your company during 2015?  Yes → Please provide the following information:  Name of parent company  EIN of owner (9 digits)  Date parent company purchased your company  REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES:  If your company was purchased between April 1, 2015 and December 31, 2015, report only for the period January 1, 2015 to the date of purchase. If your company was purchased before April 1, 2015, 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.									



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 2015?
	<ul> <li>Yes → Include data for these operations/subsidiaries in your survey responses</li> <li>No</li> </ul>
1-4	Has your company ceased operations?
	Yes → Please provide the following information:
	Date your company ceased operations  REPORTING INSTRUCTIONS:  If your company ceased operations between April 1, 2015 and December 31, 2015, report only for the period January 1, 2015 to the date your company ceased operations. If your company ceased operations before April 1, 2015, complete Question 1-6 and return this form to the Census Bureau – you are not required to complete the rest of this survey.
	Did your company have discontinued operations in 2015?  ☐ Yes → Include data for these operations in your survey responses  ☐ No
1-6	Who is the survey coordinator?  The survey coordinator is the person at your company responsible for gathering all requested information, ensuring instructions are followed, and submitting the completed survey. The survey coordinator may not be able to personally complete the entire survey and may need to request information from other knowledgeable resources concerning your company's R&D, accounting, human resources, and legal matters.  Name
	Title
	Telephone Fax Area code Number Extension Area code Number
	E-mail address

Busin	ess Codes		
1-7	Do the business pages 46-47 in w	code(s) hich yo	listed below reflect all applicable codes from the list on our company operated worldwide during 2015?
			be used to describe both business activities and R&D activities and codes used by other government surveys and reports.
	If no business co		e printed below, please write in the codes from pages 46-47 pany.
	☐ Yes → Contin	nue wit	h Question 1-8
	□ No → Draw a codes	line thand des	nrough codes that are incorrect. As needed, enter additional scriptions from pages 46-47 in the spaces provided.
	Business code (see pages 46-47)		Description
		_	
		-	
		_	
		-	
		-	
		-	



1-8 What was the amount of your company's worldwide sales and revenues									
	during 2015?	<u></u>	\$Bil. Mil. Thou.						
	<ul><li>Include:</li><li>Sales and operating re</li></ul>	evenues from discontinued operations							
1-9	How much of the amo	ount reported in Question 1-8 w tions?	as attributable to or originated						
	<ul><li>Include:</li><li>Sales and operating re including foreign subsi</li></ul>	evenues to foreign customers, idiaries							
		uring Corporation sells parts to	\$Bil. Mil. Thou.						
		orld. However, because all its side the United States it reports 100% on.							
1-10	code listed or amend (1) Worldwide sales	and operating revenues reported nd operating revenues reported	d in Question 1-8 in Question 1-9 (2)						
	Business code	Worldwide sales and operating revenues	Domestic sales and operating revenues						
	(see page 6)	\$Bil. Mil. Thou.	\$Bil. Mil. Thou.						
	a								
	b. 0000								
	с.								
	d.								
	e								
	f.								
	g		000 000 000						
	h								
	i. Less eliminations – the sales and revenues that are eliminated in order to consolidate the business codes		)( <u> </u>						
	j. <b>Total</b>		000 000 000						
		Total equals Question 1-8	Total equals Question 1-9						

### **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.

a. New or significantly improved goods (Exclude the simple resale of new goods purchased from other companies and changes of a solely aesthetic nature)?		companies.
of new goods purchased from other companies and changes of a solely aesthetic nature)?	1-11	During the three years 2013 to 2015, did your company introduce:
1-12 If you answered "yes" to either 1-11, line a, or 1-11, line b, were any of your product innovations during the three years 2013 to 2015:  a. New to your market?		of new goods purchased from other companies and changes of
innovations during the three years 2013 to 2015:  a. New to your market?		b. New or significantly improved services?
innovations during the three years 2013 to 2015:  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?	1-12	
service to your market before your competitors. (It may have been available in other markets.)  b. New only to your company?		a. New to your market?
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 2015 from:  a. New or significantly improved goods and services introduced during 2013 to 2015 that were new to your market.  b. New or significantly improved goods and services introduced during 2013 to 2015 that were new only to your company.  c. Goods and services that were unchanged or only marginally modified during 2013 to 2015 (include the resale of new goods or services purchased from other companies).  1 0 0 %		service to your market before your competitors. (It may have been
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 2015 from:  a. New or significantly improved goods and services introduced during 2013 to 2015 that were new to your market.  b. New or significantly improved goods and services introduced during 2013 to 2015 that were new only to your company.  c. Goods and services that were unchanged or only marginally modified during 2013 to 2015 (include the resale of new goods or services purchased from other companies).  1 0 0 %		b. New only to your company?
a. New or significantly improved goods and services introduced during 2013 to 2015 that were new to your market.  b. New or significantly improved goods and services introduced during 2013 to 2015 that were new only to your company.  c. Goods and services that were unchanged or only marginally modified during 2013 to 2015 (include the resale of new goods or services purchased from other companies).  1 0 0 %		service that was already available from your competitors in your
a. New or significantly improved goods and services introduced during 2013 to 2015 that were new to your market.  b. New or significantly improved goods and services introduced during 2013 to 2015 that were new only to your company.  c. Goods and services that were unchanged or only marginally modified during 2013 to 2015 (include the resale of new goods or services purchased from other companies).  1 0 0 %		
b. New or significantly improved goods and services introduced during 2013 to 2015 that were <b>new only to your company</b> .  c. Goods and services that were <b>unchanged or only marginally modified</b> during 2013 to 2015 (include the resale of new goods or services purchased from other companies)	1-13	
2013 to 2015 that were <b>new only to your company</b>		
during 2013 to 2015 (include the resale of new goods or services purchased from other companies)		
		during 2013 to 2015 (include the resale of new goods or services



### **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 2013 to 2015, 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.

(countri	es, states, specific location), and for parts of your company defi	ned by busir	ess code.	
2-1	What was the total worldwide R&D expense for your con	npany in 20	15?	
	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 partner 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 (su product support provided by R&D employees)	ch as	□ 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)		□ Yes	□ No
	f. Phase IV clinical trials		□ Yes	□ No
2-3	If you answered "Yes" to any of the costs in Question	\$Bil.	Mil.	Thou.
2-3	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 2015.			
2-5	Is the amount entered in Question 2-4 greater than zero?			
	☐ Yes → Continue with Question 2-6			
	No → Skip to Question 2-31 on page 20			

Indir	ect R&D charges				
2-6	was for R&D costs through indirect ch	mount reported in Question 2-4 your company plans to recoup arges on U.S. federal government independent R&D)?	\$Bil.	Mil.	Thou.
R&D	paid for by you	company			
2-7		orted in Question 2-4, what were the conded on page 6 of this form?	sts for ea	ch busine	ess
	Allocate R&D that is	applicable to more than one business code n to operating revenues is acceptable unless son			
	Business code (see page 6)		\$Bil.	Mil.	Thou.
	a				
	b.				
	c				
	d				
	е				
	f				
	g				
	h				
	i. <b>Total</b> (equals Que	estion 2-4)			
2-8	Of the amount repo	orted in Question 2-4, what costs were i	incurred b	y your	
	a. Domestic United S R&D performed by	States (50 states and D.C.) [Include y domestic operations that is paid sidiaries]	\$Bil.	Mil.	Thou.
	performed by fore	s (also, Puerto Rico) [Include R&D ign subsidiaries that is paid for ations]			
	c. <b>Total</b> (equals Que	estion 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 2015.	\$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 2015.	\$Bil.	Mil. Thou.							
2-11 How much of the (1) domestic, (2) foreign, and (3) total worldwide R&D paid for by your company in 2015 was for each of the following types of costs?									
(1) (2) Domestic Foreign		(3) Total worldwide							
\$\frac{\\$Bil.}{\} \frac{\Mil.}{\} \frac{\Thou.}{\} \frac{\\$Bil.}{\} \frac{\Mil.}{\} \frac{\Thou.}{\} \tag{Thou.}	\$Bil.	Mil. <u>Thou.</u>							
a. Calaires, Wages, and Tringe Benefits									
b. Stock-based compensation									
b. Stock-based compensation									
c. Temporary staffing, including on-site consultants									
00 000 000 00 000 000									
d. Expensed equipment									
00 000 000 00 000 000									
e. Materials and supplies									
00 000 000 00 000 000									
f. Leased facilities and equipment									
00 000 000 00 000 000									
g. Depreciation and amortization on R&D property and equipment									
h. Payments to business partners for collaborative R&D									
i. Purchased R&D services (if your company is foreign-owned, include payments)	ents to you	r foreign owner for R&D)							
Taronasca naz sorvices (ii your company is loreign-owned, include paying		Trongit owner for floor							
j. All other purchased services except R&D									
The control partitions described by the control partitions of the control partition of the con									
Question continues on next page									

2-11 (Continue	d)							
	(1)			(2)			(3)	
\$Bil. M	<b>omestic</b> il. Th	ou. \$		Foreign ⁄Iil.	Thou.	\$Bil.	<b>Гotal worldwid</b> Mil.	e Thou.
k. All other costs	_			_		<del></del>	_	
l. Total								
00 00								
Total equa	ls Question 2	-9	Total equa	ls Question	2-10	Tota	l equals Quest	ion 2-4
2-12 Add 2-11,	lings h and	d i for eac	h column	and ente	ar the resi	ılt hara		
	D perform			and ente	or the rest	iit liere.		
Do	(1) omestic			(2) Foreign		1	(3) Fotal worldwid	e
\$Bil. M	il. Th	ou. \$		1il.	Thou.	\$Bil.	Mil.	Thou.
2-13 Subtract 2	2-12 from 2	2-11, line	l, for each	column	and enter	the resu	ılt here.	
This is R&	D perform	ed by you	r compan	_			(2)	
Do	(1) omestic		1	(2) Foreign		1	(3) Fotal worldwid	е
\$Bil. M	il. Th	ou. \$	BBII. M	1il.	Thou.	\$Bil.	Mil.	Thou.
2-14 Copy the a	amount fro	m Questi	on 2-13, c	olumn 2.		\$Bil.	Mil.	Thou.
This is the	foreign Roany in 20	&D paid f			<u> y</u>			
your comp	Daily III 20	13.						
2-15 Of the am	ount repor	ted in Qu	estion 2-1	4, how m	uch R&D	was per	formed in t	he
following	locations?	For full list of c	ountries in each	region see Que	stion by Questio	n Guidance a	t https://econhelp.ce	nsus.gov/brdis. Thou.
	φ5π.					ΨΒΠ.		niod.
Canada				Denmark	·			
Puerto Rico				Finland .				
				_				
Europe	\$Bil.	Mil.	Thou.	France				
Austria				Germany	y			
Belgium				Hungary	·			
Czech Rep				Ireland .				
		Ques	tion contin	ues on ne	xt page			

2-15 (Continued	<b>d)</b> \$Bil.	Mil.	Thou.	Asia and Pacific	\$Bil.	Mil.	Thou.	
ltaly				Australia				
Luxembourg				China				
Netherlands				Hong Kong				
Norway				India				
Poland				Indonesia				
Russia				Japan				
Spain				Malaysia				
Sweden				New Zealand				
Switzerland				Singapore				
Turkey				South Korea				
United Kingdom				Taiwan				
Other Europe				Thailand				
Latin America/ Other Western Hemisphere	\$Bil.	Mil.	Thou.	Other Asia/ Pacific				
Argentina				Middle East	\$Bil.	Mil.	Thou.	
Dun-il				Israel				
Brazil				Other Middle East				
Chile				Africa	\$Bil.	Mil.	Thou.	
Mexico				South Africa				
Other Latin America/OWH				Other Africa				
				<b>Total</b> (equals Question 2-14)				
2-16 Copy the amount from Question 2-13, column 1.  This is the domestic R&D paid for and performed by your company in 2015.  \$Bil. Mil. Thou.								

2-17 How much (including			eported in (	Question 2-16 was μ	erforme	ed in each	state
(including	\$Bil.	Mil.	Thou.	1	\$Bil.	Mil.	Thou.
Alabama				Maine			
Alaska				Maryland			
Arizona				Massachusetts			
Arkansas				Michigan			
California				Minnesota			
Colorado				Mississippi			
Connecticut				Missouri			
Delaware				Montana			
District of Columbia				Nebraska			
Florida				Nevada			
Georgia				New Hampshire			
Hawaii				New Jersey			
Idaho				New Mexico			
Illinois				New York			
Indiana				North Carolina			
lowa				North Dakota			
Kansas				Ohio			
Kentucky				Oklahoma			
Louisiana				Oregon			
		Qı	uestion conti	nues on next page			

2-17 (Contin	ued)						
	\$Bil.	Mil.	Thou.		\$Bil.	Mil.	Thou.
Pennsylvania .				Vermont			
Rhode Island .	🖳			Virginia			
South Carolina				Washington			
South Dakota .	<u>UU</u>			West Virginia			
Tennessee	00			Wisconsin			
Texas	<u>UU</u>			Wyoming			
Utah	<u>00</u>			<b>Total</b> (equals Question 2-16)			
R&D in Address Address City  2-19 How m	2015? 3 1 3 2 4 uch of the 3	amount re	ported in (	Question 2-16 estion 2-18?	State \$Bil.		Thou.

Address 1		
0.110		
Address 2		
City		State ZIP
		\$Bil. Mil. Th
How much of the	amount reported in Question 2-16 ation identified in Question 2-20?	
Business code		Domestic R&D perform by your company
Business code (see page 6)		
		by your company
a. (see page 6)		by your company
(see page 6)		by your company
a. (see page 6)		by your company
(see page 6)  a.  b.  c.		by your company
a. (see page 6) b.		by your company
(see page 6)  a.  b.  c.  d.		by your company
a. (see page 6)  b. C.		by your company
(see page 6)  a.  b.  c.  d.  e.		by your company
(see page 6)  a.  b.  c.  d.  f.		by your company
(see page 6)  a.  b.  c.  d.  f.		by your company
(see page 6) a. b. c. d. g.		by your company
(see page 6)  a.  b.  c.  d.  f.		by your company
(see page 6) a. b. c. d. g.		by your company

R&D transactions between legal entities under comm	on ow	nership	
2-23 How much of the amount reported in Question 2-16 (dome paid for by your company's foreign subsidiaries through i			
<b>Example:</b> Company Y owns a subsidiary in France. In order to complete the development of a product in 2015, the French subsidiary paid for R&D performed at Company Y's U.S. R&D center. The cost of the U.S. R&D that was paid for by the French subsidiary would be included in this item.	\$Bil.	Mil.	Thou.
2-24 How much of the amount reported in Question 2-14 (forei 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 2015, 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 2015 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.
	\$Bil.	Mil.	Thou.
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	\$Bil.	Mil.	Thou.
a. Companies located inside the United States	\$Bil.	Mil.	Thou.
a. Companies located inside the United States	\$Bil.	Mil.	Thou.
a. Companies located inside the United States	\$Bil.	Mil.	Thou.
a. Companies located inside the United States	\$Bil.    O		Thou.  O O O O O O O O O O O O O O O O O O O
a. Companies located inside the United States	\$Bil.		Thou.  O O O O O O O O O O O O O O O O O O O



Activities with academia	
2-27 In addition to the amount reported in Question 2-25, did y gifts to U.S. universities or colleges in 2015 that included	
Yes → Continue with Question 2-28	
No → Skip to Question 2-29	
What was the amount of monetary gifts made by your company to U.S. universities or colleges in 2015 that was for R&D?	\$Bil. Mil. Thou.
Projected R&D for 2016	
2-29 What are your company's projected 2016 costs for (1) do (3) total worldwide R&D paid for by your company?	omestic, (2) foreign, and
NOTE: These amounts are the 2016 projections for the a reported in Question 2-11, line I.	mounts
(1)  Domestic  \$Bil.  Mil.  Thou.  \$Bil.  Mil.  Thou.	<b>(3)</b> <b>Total worldwide</b> \$Bil. Mil. Thou.
2-30 How much of the amount reported in Question 2-29	Domestic
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	<b>Domestic</b> \$Bil. Mil. Thou.
column 1, is for projected purchased R&D services	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
column 1, is for projected purchased R&D services and projected payments to business partners for	
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 2015?	\$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?	\$Bil.	Mil.	Thou.
a. Structures			
c. Capitalized software			
e. Total domestic capital expenditures for R&D (equals Question 2-32)			
2-34 Is the information in this section reported for the 2015 ca  ☐ Yes ☐ No → Enter time period covered below:  (MM) (YYYY) (MM) (YY  From	alendar y	/ear?	

## **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.

3-1	fo	hat were your company's <u>total worldwide costs</u> (botler the following that were funded, paid for, or reimbuour company?			
	•	<b>xclude:</b> Costs that were paid for by your company, such as those reported in Question 2-4 Payments in excess of the actual cost of the work performed (such as profit or fees)	\$Bil.	Mil.	Thou.
	a.	R&D 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			
	c.	R&D paid for by government or private foundation grants			
	d.	Defense RDT&E goods or services (including DOD 6.1 through 6.7 funding), provided as a prime or as a sub, to the government and/or government contractors			
	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 2015.	\$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	l <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 2015.	\$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 2015.	\$Bil.	Mil.	Thou.

How much of the (1) dome others in 2015 was for each			ride R&D paid for by
(1) Domestic	(2) Foreign		(3) Total worldwide
*Bil. Mil. Thou.  a. Salaries, wages, and fringe benefi	<u>\$Bil.</u> <u>Mil.</u> ts	Thou. \$Bil.	<u>Mil.</u> <u>Thou.</u>
00 000 000	00 000		
b. Stock-based compensation			
c. Temporary staffing, including on-s	site consultants		
d. Expensed equipment			
e. Materials and supplies			
f. Leased facilities and equipment			
g. Depreciation and amortization on	R&D property and equ	ipment	
h. Payments to business partners for	r collaborative R&D		
i. Purchased R&D services (if your co	mpany is foreign-owned, i	nclude payments to	your foreign owner for R&D)
j. All other purchased services exce	pt R&D		
k. All other costs			
	00 000		
l. Total			
00 000 000			
Total equals Question 3-5	Total equals Quest	ion 3-6	Total equals Question 3-2



				n, and ent				
This is <u>R8</u>	D perfo	rmed by o	thers (e.g	j., subconti (2)	racted/pa	ssed-thro	ugh R&D( (3)	costs).
	omestic	T1	ΦD:I	Foreign	<b>T</b> 1	ΦD:1	Total world	
\$Bil. M	iil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
				n column a pany that v				
	(1) omestic			(2) Foreign			(3) Total world	wide
\$Bil. M	il.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
						\$Bil.	Mil.	Thou.
				.column 2 Ir company				
was paid			,,,,,,					
				<b>3-10, how i</b> each region see 0				
Tollowing	\$Bil.	Mil.	Thou.	each region see Q	destion by Que	\$Bil.	Mil.	Thou.
Canada				ltaly				
Puerto Rico				Luxem	bourg			
Europe	\$Bil.	Mil.	Thou.					
				Nethe	lands			
Austria								
				Norwa	y			
Belgium								
0   0				Poland	١			
Czech Rep								
<b>.</b>				Russia				
Denmark								
Finland				Spain				
Finland								
France				Swede	n			
i i alice				Construction	ulond			
Germany				SWITZE	rland			
Germany				Tuelco	,			
Hungary				Turkey	'			
gary				United	om			
				Killya	///////////////////////////////////////			
Ireland								

FTT (2							
3-11 (Continue	\$Bil.	Mil.	Thou.		\$Bil.	Mil.	Thou.
Other Europe				New Zealand			
Latin America/ Other Western Hemisphere	\$Bil.	Mil.	Thou.	Singapore			
Argentina				South Korea			
Brazil				Taiwan			
Chile				Thailand			
Mexico				Other Asia/ Pacific			
Other Latin America/OWH				Middle East	\$Bil.	Mil.	Thou.
Asia and Pacific	\$Bil.	Mil.	Thou.	Israel			
Australia				Other Middle East			
China				Africa	\$Bil.	Mil.	Thou.
Hong Kong				South Africa			
India				Other Africa			
Indonesia				<b>Total</b> (equals Question 3-10)			
Japan							
Malaysia							
This is the	e <mark>domest</mark>	ic R&D pe	stion 3-9, co erformed by by others.		\$Bil.	Mil.	Thou.

Allocate R&D that Allocation in proport basis is more approp	ion to operating					
Business code (see page 6)				\$Bil	Mil.	Т
a						
b.						
	1					
c.				U		
d.						
e.						
	1					
f.				🔱		
g.						
h.						
i. <b>Total</b> (equals Qι	uestion 3-12)			U		
•						
			stion 3-12 v	was paid f	or by each	of the
	amount repo	rted in Que				
				the original	source of f	unds.
following?	a subcontracto	or or subgrar	ntee, report 1			
<b>Example:</b> Company a subcontractor on a for the defense comp	a subcontracte Sub Inc. perform contract with th pany, it reports the	or or subgrar ns custom soft e U.S. Dept. o	<b>itee, report t</b> ware develop f Defense. Eve	ment for a la	arge defense ub Inc. is wo	compan
following? If your company is Example: Company a subcontractor on a	a subcontracte Sub Inc. perform contract with th pany, it reports the	or or subgrar ns custom soft e U.S. Dept. o	<b>itee, report t</b> ware develop f Defense. Eve	ment for a la	arge defense ub Inc. is wo	compan
following?  If your company is  Example: Company a subcontractor on a for the defense comp	a subcontracte Sub Inc. perform contract with th pany, it reports the	or or subgrar ns custom soft e U.S. Dept. o	<b>itee, report t</b> ware develop f Defense. Eve	ment for a la	arge defense ub Inc. is wo cause the De	compan rking dire pt. of De
following?  If your company is  Example: Company a subcontractor on a for the defense comp was the original sour	a subcontracted Sub Inc. perform contract with the pany, it reports the rice of funds.	or or subgrar as custom soft e U.S. Dept. on the cost of this	ntee, report to ware develop f Defense. Eve development	ment for a length Signature of the second se	arge defense ub Inc. is wo cause the De	company
following?  If your company is  Example: Company a subcontractor on a for the defense comp was the original sour  a. Other companies	a subcontracted Sub Inc. perform contract with the pany, it reports the pany of funds.	or or subgrar as custom soft e U.S. Dept. on the cost of this	ware develop f Defense. Eve development	ment for a length Signature of the second se	arge defense ub Inc. is wo cause the De	compan rking dire pt. of De
following?  If your company is  Example: Company a subcontractor on a for the defense comp was the original sour  a. Other companies	a subcontracted Sub Inc. perform contract with the pany, it reports the price of funds.  Is located inside foreign parent	or or subgrar as custom soft e U.S. Dept. on the cost of this the United S	ware develop f Defense. Eve development States	ment for a length Spirit line d be	arge defense ub Inc. is wo cause the De	compan rking dire pt. of De
following?  If your company is  Example: Company a subcontractor on a for the defense comp was the original sour  a. Other companies  b. Your company's foreign parent).	a subcontracted Sub Inc. perform contract with the pany, it reports the price of funds.  Is located inside foreign parent	or or subgrar	ware develop f Defense. Eve development States	ment for a length of the sent for a length of	arge defense ub Inc. is wo cause the De	compan rking dire pt. of De
following?  If your company is  Example: Company a subcontractor on a for the defense compwas the original sour  a. Other companies  b. Your company's	a subcontracted Sub Inc. perform contract with the pany, it reports the price of funds.  Is located inside foreign parent	or or subgrar	ware develop f Defense. Eve development States	ment for a length of the sent for a length of	arge defense ub Inc. is wo cause the De	compan rking dire pt. of De



2 44	/O	4	1\						
3-14	(Con	tinu	ea)				\$Bil.	Mil.	Thou.
	e. U	S. st	ate						
	f. Fo	reigi	n go	ver	nme	nt agencies or laboratories			
	a Al	Loth	er o	rga	nizat	cions inside the United States			
	g. / "	. 0	01 0	n gu	mza	<u>iiioido</u> tilo omitod otatoo			
	h. Al	l oth	er o	rga	nizat	ions <u>outside</u> the United States			
	i. <b>T</b> e	otal	equ	ıals	Que	stion 3-12)			
3-15	Add	Que	stio	on 3	-14.	lines a, b, and c, and enter the	\$Bil.	Mil.	Thou.
	resu		re.	Thi	s is	the R&D that was paid for by			
	Ques	stion	3-1	15 k	oase	siness codes printed below, allocate the d on the industries of the companies the dditional codes from pages 46-47 in the	hat paid	d for the R	&D.
		Busi	ness	cod	le	Description			_
		3 2	5	4	3	Biotechnology-based pharmaceutical and biological products (except	\$Bil.	Mil.	Thou.
	a	3 2		4		diagnostics)			
	J			T		botanical products manufacturing			
	c	3 3	5	0	0	Electrical equipment, appliances, and components manufacturing			
	d	3 3	4	4	0	Semiconductor and other electronic components manufacturing			
	e. (	3 3	9	1	0	Medical equipment and supplies manufacturing			
	f. (	3 3	6	1	0	Motor vehicles manufacturing			
						,g			
	g								
	h								
	i					]			
	j. <b>T</b>	otal	(eqı	uals	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	paid		
for by the following agencies?	\$Bil.	Mil.	Thou.
a. Department of Defense			
b. Department of Energy			
c. National Aeronautics and Space Administration			
d. National Institutes of Health			
e. Department of Homeland Security			
f. Department of Transportation			
g. Environmental Protection Agency			
h. National Science Foundation			
i. All other, please specify:			
j. <b>Total</b> (equals Question 3-17)			
3-19 How much of the amount reported in Question 3-17 was following types of agreements?	perform	ed under tl	ne
ionoming typod or agreements.	\$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)	.00		
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.



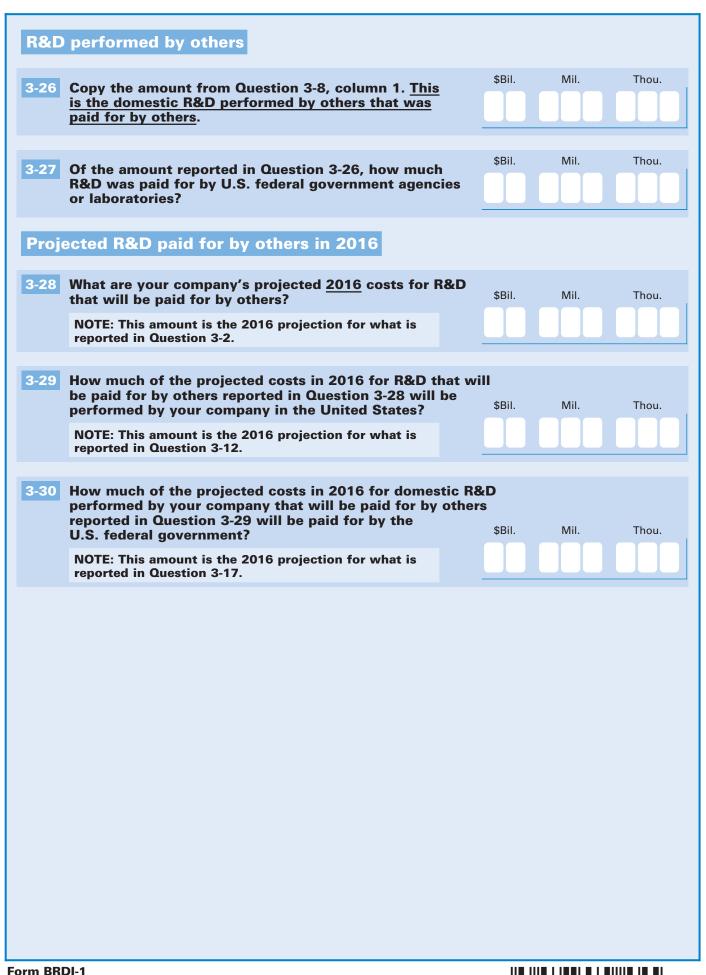
3-21 How much of the following three amounts was performed in each state (including D.C.):  (1) Domestic R&D paid for by the U.S. federal government reported in Question 3-17 (2) Domestic R&D paid for by nonfederal sources reported in Question 3-20 (3) Total domestic R&D performed by your company that was paid for by others reported in Question 3-12												
(1) Federal		(2) Nonfederal	(3 Tot	) al								
<u>\$Bil.</u> <u>Mil.</u> <u>T</u>	hou. \$Bil.	Mil. Thou.	\$Bil. Mil.	Thou.								
Alabama												
Alaska	1	ı										
Arizona												
Arkansas												
California												
Colorado												
Connecticut												
Delaware												
District of Columbia												
Florida												
Tiorida												
Goorgia												
Georgia												
Hawaii												
	Question c	ontinues on next page		Question continues on next page								

3-21 (Continue			(2)			(3)	
<u>\$Bil.</u> <u>M</u>	(1) ederal il. <u>Thou.</u>	<u>\$Bil.</u>	(2) Nonfederal <u>Mil.</u>	Thou.	<u>\$Bil.</u>	(3) Total Mil.	Thou.
Idaho							
Illinois							
Indiana							
lowa							
Kansas							
Kentucky							
Louisiana							
Maine							
Maryland							
Massachusetts							
Michigan							
Minnesota							
Mississippi							
		Question of	continues on ne	ext page			

3-21 (Con	tinued)							
	(1) Federal	T1	<b>4D</b> .1	(2) Nonfederal	<b>T</b> .	ΦD:I	(3) Total	T.
\$Bil. Missouri	Mil.	<u>Thou.</u>	<u>\$Bil.</u>	Mil.	Thou.	\$Bil.	<u>Mil.</u>	Thou.
Montana								
Nebraska								
Nevada								
New Hamps	hire							
New Jersey								
New Mexico								
New York								
North Caroli	na							
North Dakota	а							
Ohio								
Oklahoma								
Oregon								
		Q	uestion co	ontinues on n	ext page			

3-21 (Continued)			(2)			(3)	
\$Bil. Mil.	Thou.	\$Bil.	(2) Nonfederal <u>Mil.</u>	Thou.	<u>\$Bil.</u>	(3) Total <u>Mil.</u>	Thou.
Pennsylvania							
Rhode Island							
South Carolina							
South Dakota							
Tennessee							
Texas							
Utah							
Vermont							
Virginia							
Washington							
West Virginia							
Wissensin							
Wisconsin							
Wyoming							
	Q	uestion co	ontinues on n	ext page			

3-21	(Continued)						
фГ	(1) Federal	Thou	_	(2) Nonfederal	Thou	фD:I	(3) Total
Total	<u>Mil.</u>	<u>Thou.</u>	<u>\$Bil.</u>	Mil.	Thou.	\$Bil.	Mil. Thou.
	Total equals Questi	on 3-17	Total eq	uals Questio	n 3-20	Total equ	uals Question 3-12
3-22	At what <u>domesti</u>	c location di	d your co	mpany pe	rform the l	argest dol	lar amount of
	R&D that was pa	id for by oth	ers in 20	15?			
-	Address 2						
-	City					State	ZIP
3-23	How much of the was from the loc	amount rep	orted in ( ied in Qu	Question 3 estion 3-22	-12 2?	\$Bil.	Mil. Thou.
					_		
	At what <u>domesti</u> amount of R&D t					second lar	gest dollar
	Address 1	mat was pare	a for by o				
	Address 2						
	City					State	ZIP
	How much of the was from the loc					\$Bil.	Mil. Thou.
					_		



## **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 2015.
- \$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
- 4-3 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 2015 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 2015, Company A reports this R&D in this question.



Thou.

## 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?

Mil.

\$Bil.

a. <u>Research</u>-the planned, systematic pursuit of new knowledge or understanding........
b. <u>Experimental development</u>-the systematic use of

research and practical experience to produce new or

significantly improved goods, services, or processes. . . . . . .



4-6	If you reported any research in Question 4-5, line a, how much of that research was for the following categories?	Mil. Thou.
	a. Applied research—the activity aimed at solving a specific problem or meeting a specific commercial objective	
	b. Basic research—the activity aimed at acquiring new knowledge or understanding without specific immediate commercial application or use	
	c. <b>Total</b> (equals Question 4-5, line a)	
	as of application for domestic R&D paid for and performed spany	by your
NOTE	: You may report the same R&D in multiple areas for Questions 4-7 to	4-11.
4-7	What percentage of the amount reported in Question 4-4 had energy applications, including energy production, distribution, storag and efficiency (excluding exploration and prospecting)?	e,
	<b>Example:</b> Company B is a semiconductor manufacturer. Its products are not designed specifically for energy applications. In 2015, 10% of the domestic R&D performed by the company was focused on improving the energy efficiency of its products. Based of this, Company B reports "10%" for this question.	
4-8	What percentage of the amount reported in Question 4-4 had environmental protection applications, including pollution abatement?	<b>%</b>
4-9	What percentage of the amount reported in Question 4-4 had defense applications, including military applications and general security-related R&D?	<b>%</b>
4-10	What percentage of the amount reported in Question 4-4 had health or medical applications?	<b>%</b>
4-11	What percentage of the amount reported in Question 4-4 had agricultural applications?	<u></u> %
Tecl	hnology focus of domestic R&D paid for and performed by	your company
NOTE	: You may report the same R&D in multiple areas for Questions 4-12 to	4-14.
4-12	What percentage of the amount reported in Question 4-4 was for software products or software embedded in other projects or product	<u>ts</u> ?
4-13	What percentage of the amount reported in Question 4-4 was for biotechnology—the use of cellular and bio-molecular processes to solve problems or make useful products?	%
4-14	What percentage of the amount reported in Question 4-4 was for <a href="mailto:nanotechnology">nanotechnology</a> —the science and technology involving work at the nanometer scale?	<u>%</u>



Dom	estic R&D performed by your company that was	paid for	r by othe	ers
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—the planned, systematic pursuit of new knowledge or understanding	\$Bil.	Mil.	Thou.
	b. Experimental development—the systematic use of research and practical experience to produce new or significantly improved goods, services, or processes			
	c. <b>Total</b> (equals Question 4-15)			
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—the activity aimed at solving a specific problem or meeting a specific commercial objective	\$Bil.	Mil.	Thou.
NOTE:	You may report the same R&D in multiple areas for Ques	tions 4-19	to 4-23.	
4-19	What percentage of the amount reported in Question 4-15 applications, including energy production, distribution, strength efficiency (excluding exploration and prospecting)?			%
4-20	What percentage of the amount reported in Question 4-15 environmental protection applications, including pollution abatement?			%
4-21	What percentage of the amount reported in Question 4-15 defense applications, including military applications and security-related R&D?			%
4-22	What percentage of the amount reported in Question 4-15 health or medical applications?	5 had		%



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
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.  \$Bil. Mil. Thou.
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
4-29 How much of the amount reported in Question 4-27 was for the following categories?
a. Research-the planned, systematic pursuit of new
b. Experimental development—the systematic use of research and practical experience to produce new or significantly improved goods, services, 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.
a. Applied research—the activity aimed at solving a specific problem or meeting a specific commercial objective			
b. Basic research—the activity aimed at acquiring new knowledge or understanding without specific immediate commercial application or use			
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 projects		ucts?	%
Characteristics of foreign R&D paid for and performe	d by you	ur comp	any
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-the planned, systematic pursuit of new knowledge or understanding			
b. Experimental development—the systematic use of research and practical experience to produce new or significantly improved goods, services, or processes			
c. <b>Total</b> (equals Question 4-32)			
Characteristics of foreign R&D performed by your confor by others	npany t	hat was	paid
	\$Bil.	Mil.	Thou.
4-34 Copy the amount from Question 3-10. This is the 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.
a. Research-the planned, systematic pursuit of new knowledge or understanding			
b. Experimental development—the systematic use of research and practical experience to produce new or significantly improved goods, services, 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.

#### What does this section cover?

This section requests information about your company's employees, focusing on those who worked on

	tivities either full-time or part rour company owned more th	• •	ent data for operation	s or subsidiaries for	
5-1	What was the total number your company for the pay				
	Include: • Full- and part-time employed	es		Number	
	Exclude:  • Leased or temporary employ	yees and consultants			
5-2	How many of the employe your company's domestic			vees 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) Domestic operations	(2) Foreign operations	(3) Total employees	
	Employees				
				Total equals Question 5-1	
5-3	How many employees rep were all other employees		were R&D employe	es and how many	
	R&D employees include all of to R&D, such as researchers, R to R&D groups. Exclude employees represented personnel security of	&D managers, technicians, oyees who provide only inc	clerical staff, and other direct support to R&D, s	s assigned	

jaaras, ana sarstona wor	10.01	
(1) Domestic operations	(2) Foreign operations	(3) Total employees
	(1) Domestic	Domestic Foreign

Total line equals Question 5-2



R&I	D employees			
5-4	Copy the numbers from CR&D employees.	duestion 5-3, line a. 1	These are your compa	ny's
		(1) Domestic operations	(2) Foreign operations	(3) Total R&D employees
	R&D employees			
5-5	How many of the R&D em and male employees?	nployees reported in	Question 5-4 were <u>fe</u>	male employees
	· · · / · · / · · / · · ·	(1) Domestic operations	(2) Foreign operations	(3) Total R&D employees
	a. Female R&D employees			
	b. Male R&D employees			
	c. Total R&D employees			
		Т	otal line equals Question 5	-4
5-6	How many of the R&D emoccupations listed below?	?	Question 5-4 worked	
	a. R&D scientists,	(1) Domestic operations	Foreign operations	(3) Total R&D employees
	engineers, and managers			
	b. R&D technicians and technologists			
	c. R&D support staff (clerical and other)			
	d. Total R&D employees			
		Т	otal line equals Question 5	-4
5-7	How many of the R&D sci line a, had the following <u>l</u>		nd managers reported	d in Question 5-6,
		(1) Domestic Operations	(2) Foreign Operations	(3) Total
	PhD (excluding MD, JD, and EdD)			



Dome	es	tic full-time equivalents (FTEs)
	nu	the domestic R&D employees reported in Question 5-4, column 1, what was the imber of full-time equivalents (FTEs) for R&D activity for full-time R&D employees, her full-time employees not working solely on R&D, and part-time employees?
		Number
	a.	FTEs for full-time R&D employees  Count the number of full-time employees who work only on R&D
		<b>Example:</b> 50 full-time R&D employees worked only on R&D = 50 FTEs
	b.	FTEs for other full-time employees not working solely on R&D  Use the share of the time they work on R&D to calculate the number of FTEs.
		<b>Example:</b> 60 full-time employees averaged one-fourth of their time on R&D = 15 FTEs
	c.	FTEs for part-time employees working on R&D  Use the share of a full-time week (such as 40 hours) that they work on R&D to calculate the FTEs
		Example: 20 part-time employees averaged 20 hours a week on R&D activities = 10 FTEs
	d.	Total FTEs should not exceed Question 5-4, column 1.

5-9	ro	f the domestic R&D scientists, engineers, and managers reported in Question 5-6, wa, column 1, what was the number of full-time equivalents (FTEs) for R&D stivity for full-time R&D employees, other full-time employees not working solely R&D, and part-time employees?
		Number
	a.	FTEs for full-time R&D scientists, engineers, and managers  Count the number of full-time employees who work only on R&D
		Example: 50 full-time R&D scientists worked only on R&D = 50 FTEs
	b.	FTEs for other full-time scientists, engineers, and managers not working solely on R&D
		Use the share of the time they work on R&D to calculate the number of FTEs
		Example: 60 full-time managers averaged one-fourth of their time on R&D = 15 FTEs
	c.	FTEs for part-time scientists, engineers, and managers working on R&D
		Use the share of a full-time week (such as 40 hours) that they work on R&D to calculate the FTEs
		Example: 20 part-time employees averaged 20 hours a week on R&D activities = 10 FTEs
	d.	Total FTEs should not exceed Question 5-6, line a, column 1.
5-10	lir	ow many of the R&D scientists, engineers, and managers reported in Question 5-6, ne a, column 1, were non-U.S. citizens employed in the United States under a mporary visa, such as H-1B or L-1?    (1)   Domestic   Operations
		&D scientists, engineers, and managers employed under temporary visa



## **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.

lota	al patents and utility patents	
6-1	How many total patents did your company <u>apply</u> for in 2015 from the U.S. Patent and Trademark Office (USPTO)?	Number
6-2	Of the patent applications reported in Question 6-1, what was the number of nonprovisional utility patent applications?	Number
6-3	What percentage of the nonprovisional utility patent applications reported in Question 6-2 has your company applied for or plans to apply for in foreign jurisdictions?	%
6-4	What percentage of the nonprovisional utility patent applications reported in Question 6-2 was for inventions that originated within your company's organized R&D activities?	9/0
6-5	How many <u>utility patents</u> were <u>issued</u> to your company in 2015 by the USPTO?	Number
6-5		
6-6	the USPTO?  What percentage of your company's inventions considered for	
6-6	What percentage of your company's inventions considered for patenting in 2015 resulted in nonprovisional utility patent applications	5?



Utility patent purchases and licensing <u>from others</u>		
6-9 How much did your company pay others in 2015 to purchase utility patents?	Mil.	Thou.
6-10 How much did your company pay others in 2015 to license utility patents?	Mil.	Thou.
Intellectual property transfer activities		
6-11 Did your company perform the following activities in 2015?		
Transferred intellectual property (IP) to others not owned by your company through participation in technical assistance or "know how" agreements	Yes	□ No
<ul> <li>Received IP from others not owned by your company through participation in technical assistance or "know how" agreements</li> </ul>	Yes	□ No
c. Transferred IP to a spin-off or spin-out of your company	Yes	□ No
d. Received IP from a parent company as part of a spin-off or spin-out	Yes	□ No
e. Acquired more than 50% ownership in another company for the primary purpose of acquiring their IP	□ Yes	□ No
f. Acquired any financial interest in another company in order to gain access to their IP	□ Yes	□ No
g. Participated in cross-licensing agreements—the agreements in which two or more parties grant a license to each other for the use of the subject matter claimed in one or more of the patents owned by each party	☐ Yes	□ No
h. Allowed free use of patents or other IP owned by your company (for example, open source software)	☐ Yes	□ No
i. Made use of open source patents or other freely available IP not owned by your company	☐ Yes	□ No
Intellectual property protection		
6-12 During 2015, how important to your company were the following types of intellectual property protection?  Very important	Somewhat important	Not important
a. Utility patents (patents for invention)		
b. Design patents (patents for appearance)		
c. Trademarks		
d. Copyrights		
e. Trade secrets		
f. Mask works (copyright protection for semiconductor products)		



<b>D</b>			
Business codes			mer Goods
	n Sections 1, 2, and 3)	33333	Digital cameras manufacturing
Aerosp	pace and Defense	33430	Audio and video equipment manufacturing
33642	Aircraft engine and engine parts manufacturing	31210	Beverage manufacturing
33641	Aircraft manufacturing	33200 31100	Fabricated metal products manufacturing
33644	Guided missiles, space vehicles, and parts	33700	Food manufacturing Furniture and related products manufacturing
	manufacturing	32300	Printing and related support activities
33692	Military armored vehicle, tank, and tank	32591	Soap, cleaning compound, and toilet
	components manufacturing	02001	preparations manufacturing
33452	Search, detection, navigation, guidance,	31990	Textile, apparel, and leather products
	aeronautical, and nautical system and		manufacturing
33660	instruments manufacturing Ship and boat building	31220	Tobacco manufacturing
33643	Other aircraft parts and auxiliary equipment	33990	Miscellaneous manufacturing not listed
000-10	manufacturing		elsewhere (games, office supplies,
	aa.aatag		slot machines, etc.)
Autom	obiles, Motorcycles, and Components	l _	
33620	Motor vehicle body and trailer manufacturing	Energy	y and Mining
33630	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	Ship and boat building	21100	equipment manufacturing
33699	All other transportation equipment	21100 32401	Oil and gas extraction Petroleum refineries
	manufacturing	21300	Support activities for mining,
Capita	I Equipment	21300	including oil and gas
33311	Agricultural machinery and equipment		morading on and gao
	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
	manufacturing	53100	Real estate
33312	Construction machinery manufacturing	52310	Securities, commodity contracts, and other
33500	Electrical equipment, appliances, and		financial investments and related activities
22260	components manufacturing		(including funds and trusts)
33360	Engine, turbine, and power transmission equipment manufacturing	11 141.	
33322	Industrial machinery manufacturing, except	Health	
00022	semiconductor machinery	32543	Biotechnology-based pharmaceutical and
33390	Metalworking and other general purpose	22454	biological products (except diagnostics)
	machinery manufacturing	33451	Electromedical, electrotherapeutic, and irradiation apparatus manufacturing
33319	Mining, oil, and gas field machinery and	62200	Hospitals and nursing care facilities
	equipment manufacturing	32542	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
	materials manufacturing		products manufacturing
32510	Basic chemicals manufacturing	54173	Research and development services
32790	Cement, concrete, lime, gypsum, and other	54174	in biotechnology
l	nonmetallic mineral product manufacturing	541/4	Research and development services in physical, engineering, and life sciences
32710	Clay and glass products manufacturing		(except biotechnology)
21200	Mining	62199	Other ambulatory health care services
32592	Paint, adhesive, and other chemical	02.00	(ambulance, dental, home health care)
32200	manufacturing Paper manufacturing		,,,
32530	Pesticide, fertilizer, and other agricultural		
52555	chemical manufacturing		
32600	Plastics and rubber products manufacturing		
33100	Primary metal manufacturing		
32520	Resin, synthetic rubber, and artificial		
	synthetic fibers and filaments manufacturing		
32591	Soap, cleaning compound, and toilet		
	preparations manufacturing		
32100	Wood products manufacturing		
32403	Other petroleum and coal products		
	manufacturing, including motor oil, hydraulic fluid, and charcoal		
	nyuraune nuiu, anu charcoai		



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
	communication equipment manufacturing
33440	Semiconductor and other electronic
	components manufacturing
33321	Semiconductor machinery manufacturing
51120	Software publishers (except Internet)
33421	Telephone apparatus manufacturing
	including routers, modems, and gateways
42500	Wholesale electronic markets and
	agents and brokers (business to business)
33429	Other communication equipment
	manufacturing (except radio, television,
	and wireless communication equipment)
51910	Other information services, including
	Internet publishing, broadcasting,
	and web search portals

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

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

#### **Telecommunications and Utilities**

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

#### **Other Services**

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



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