

Washington, DC 20233

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

BRD-1 (10-27-2017) Draft 8

2017 BUSINESS RESEARCH AND DEVELOPMENT SURVEY

DUE DATE:
Need help or have questions about filling out the form?
Visit https://www.census.gov/ programs-surveys/brds/ information.html
Here, you can access question-by-question detailed instructions and learn more about the survey.
Call toll-free 1-800-772-7851, between 8:00 a.m. and 5:00 p.m. Eastern time, Monday through Friday.
Please file your form electronically (see details below).
Or mail your completed form to:
U.S. CENSUS BUREAU 4600 Silver Hill Road Room ERD-6H156

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

(Please correct any errors in this mailing address)

Authentication Code:

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

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

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

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

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



Table of Contents

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

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

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

Section 3: Costs Paid For by Othersp.19

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

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

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

Section 6: Human Resourcesp.40

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

Section 7: Intellectual Property and Technology Transfer.... p.43

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

Changes from the 2016 survey

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

Electronic materials

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

Available materials include:

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

Filing electronically

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



What is Research and Development (R&D)?

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

The term R&D does NOT include expenditures for:

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

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

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

R&D activity in software INCLUDES:

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

R&D activity in software EXCLUDES:

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

Reporting unit

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

Reporting period

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

Estimates are acceptable

Please report all items to the best of your ability.

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

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



		SECTION 1 Company Information
1-1	Has	your company ceased operations?
		Yes → Please provide the following information: (MM) (DD) (YYYY)
		Date your company ceased operations
		REPORTING INSTRUCTIONS: If your company ceased operations between April 1, 2017 and December 31, 2017, report only for the period January 1, 2017 to the date your company ceased operations. If your company ceased operations before April 1, 2017, complete Question 1-6 and return this form to the Census Bureau - you are not required to complete the rest of this survey.
		No
1-2	Was	your company a majority-owned subsidiary of a foreign company in 2017?
		Yes → Please provide the following information and then skip to Question 1-4:
		Name of parent company
		REPORTING INSTRUCTIONS FOR FOREIGN-OWNED COMPANIES: If you are owned by a foreign parent, the reporting unit for the survey is your U.Slocated company, including all your majority-owned subsidiaries and divisions regardless of location. For reporting purposes, your foreign parent and any foreign affiliates your company does not own should be treated the same as any business partner, customer, or supplier you do not own.
		If you pay your foreign parent for R&D services, those costs should be included in your responses in Section 2 as "costs for purchased R&D services."
		If your foreign parent pays or reimburses your company for R&D services, the costs for this R&D should be included in your responses in Section 3 as "costs funded, paid for, or reimbursed by others."
		Report your survey data using U.S. Generally Accepted Accounting Principles (U.S. GAAP) as recognized by the Financial Accounting Standard Board (FASB). If your company follows International Financial Reporting Standards (IFRS), we request that you estimate any adjustments that would be required to conform to U.S. GAAP.
		No



1-3	Did another U.S. company other than a holding company own more than 50 percent of the voting interest in your company during 2017?
	☐ Yes → Please provide the following information:
	Name of parent company
	EIN of owner (9 digits) Date parent company purchased your company (MM) (DD) (YYYY)
	REPORTING INSTRUCTIONS FOR U.SOWNED COMPANIES: If your company was purchased between April 1, 2017 and December 31, 2017, report only for the period January 1, 2017 to the date of purchase. If your company was purchased before April 1, 2017, complete Question 1-6 and return this form to the Census Bureau – you are not required to complete the rest of this survey unless your owner instructs you to complete this survey.
	□ No
1-4	Did your company own more than 50 percent of any company operations or subsidiaries outside the 50 United States and D.C. during 2017?
	☐ Yes → Include data for these operations/subsidiaries in your survey responses
	□ No
1-5	Did your company have discontinued operations in 2017?
	□ 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
	Telephone Area code Number Extension
	E mail address
	E-mail address

1-7	What was the total number your company for the pay										
	Include:Full- and part-time employe	es		Number							
	Exclude: • Leased or temporary emplo	yees and consultants									
1-8	How many of the employed your company's domestic			ees of							
	Domestic operations emplo first quarter filing of IRS Form			rted on the							
		(1) Domestic operations	(2) Foreign operations	(3) Total employees							
	Employees										
				Total equals Question 1-							
Bu	the amount reported in Quest ureau – you are not required to ness Codes			Torm to the Census							
1-9	Do the business code(s) li pages 46-47 in which you										
	NOTE: These codes will be may differ from industry co										
	If no business codes are that apply to your compa		e write in the codes f	rom pages 46-47							
	☐ Yes										
	No → Draw a line through codes that are incorrect. As needed, enter additional codes and descriptions from pages 46-47 in the spaces provided.										
	Business code (see pages 46-47)		Description								
1-10	Please describe your com	pany's primary busin	ess activity during 20	017.							

1-11	What was the amount	of your company's worldwide	color and rayanuas
	during 2017?	or your company's worldwide	\$Bil. Mil. Thou.
	Include:Sales and operating rev	venues from discontinued operations	
1-12	How much of the amo	ount reported in Question 1-11 v	was attributable to or originated
	from domestic operat		was attributable to or originated
	Include:Sales and operating revincluding foreign subsidered	venues to foreign customers, diaries	
	customers around the wor	ring Corporation sells parts to rld. However, because all its ide the United States it reports 100% n.	\$Bil. Mil. Thou.
1-13	code listed or amende (1) Worldwide sales a	and operating revenues reported	
		(1) Worldwide sales and operating revenues	(2) Sales and operating revenues from domestic operations
	Business code	\$Bil. Mil. Thou.	\$Bil. Mil. Thou.
	a		
	b		
	c		
	d		000 000 000
	e. ()		
	f.		000 000 000
	g		
	h		
	i. Less eliminations – the sales and revenues that are eliminated in order to consolidate the business codes		
	j. Total		000 000 000
		Total equals Question 1-11	Total equals Question 1-12

R&D Paid For by Your Company

Who should answer this section?

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

What does this section cover?

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

2-1	What was the worldwide R&D expense (both direct and in in 2017?	ndirect) for	you	ır com	pany	
	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.	\$Bil.	Mil.		Thou	1.
	If your company is foreign-owned, refer to the instructions on page 4. Additional guidance, such as for privately owned companies, is available online at https://www.census.gov/programs-surveys/brds/information/BRDShelp.html#Q2-1					
	NOTE: Report your company's R&D expense even if the amount is not considered material for your company's financial statements.					
2-2	Does the amount reported in Question 2-1 include any of	the follow	ing	costs?		
	a. Collaborative R&D that was reimbursed by business partners such as through cost-sharing agreements			Yes		No
	b. R&D paid for by grants (government or private foundations)			Yes		No
	c. R&D paid for by customers (customer-sponsored R&D)			Yes		No
	d. Technical services not an integral part of an R&D project (suc product support provided by R&D employees)			Yes		No
	e. Bid and proposal costs			Yes		No
	f. Expense your company claimed resulting from the acquisitio another company with unfinished R&D projects (in-process R			Yes		No
	g. Phase IV clinical trials			Yes		No
2-3	If you answered "Yes" to any of the costs in Question	\$Bil.	Mil.		Thou	ı.
	2-2, what was the amount of these costs that was included in your response to Question 2-1?					
2-4	Subtract Question 2-3 from Question 2-1 and enter the	\$Bil.	Mil.		Thou	ı.
	result here. This is the <u>total R&D paid for by your company</u> in 2017.					
	Is the amount entered in Question 2-4:					
	\$0 → Stop Skip to Section 3 on page 19.					
	Less than \$1 Million → Skip to Section 2 Worksheet continue with Section 3 on page 19.	on page 1	8 an	d then		



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

Indi	rect R&D charges			
2-5	How much of the amount reported in Question 2-4 was for R&D costs your company plans to recoup through indirect charges on U.S. federal government contracts (IR&D or independent R&D)?	\$Bil.	Mil.	Thou.
R&D	paid for by your company			
2-6	Of the amount reported in Question 2-4, what were the cocode listed or amended in Question 1-9?	sts for e	ach busir	ness
	Allocate R&D costs that are applicable to more than one busine basis. Allocation in proportion to operating revenues is acceptable unleallocation basis is more appropriate.			able
	Business code	\$Bil.	Mil.	Thou.
		Ψ5		Thou.
	a			
	b			
	с			
	d			
	e			
	f.			
	g			
	9.			
	h			
	i. Total (equals Question 2-4)			
2-7	Of the amount reported in Question 2-4, what costs were	incurred	by your	
	company in the following locations?	\$Bil.	Mil.	Thou.
	a. Domestic United States (50 states and D.C.) [Include R&D performed by domestic operations that is paid	Ψ5		
	for by foreign subsidiaries]			
	b. All other countries (also, Puerto Rico) [Include R&D			
	performed by foreign subsidiaries that is paid for by domestic operations]			
	c. Total (equals Question 2-4)			



2			the (1) dome , in 2017 was						
	,	(1) Domes			(2) Foreign	5 <u></u>		(3) Worldwide	
	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
a.	Salaries	, wages, and	d fringe benefi	ts					
b.	Stock-ba	ased compe	nsation						
c.	Leased	employees c	or temporary s	taffing, includ	ding on-site	consultant	s, working	on R&D	
d.	Expense	ed equipmen	nt (not capitaliz	ed)					
e.	Material	s and suppl	ies						
f.	Leased	facilities and	l equipment						
g.	Deprecia	ation and an	nortization on	R&D property	y, plant, and	d equipmen	nt		
h.	Royaltie property t	s and licens used in your co	ing fees (includi mpany's R&D)	ng payments m	ade to others f	for the use of	patents and	other forms of	intellectual
i.	Paymen	ts to busine	ss partners for	collaborative	e R&D (exclu	de royalties a	nd licensing f	ees)	
	Director	ad D9:D	riona /if	manageria fe	an arms I i	aluda ::	onto to	fourier	at for DOD
j.	rurcnas	ed had serv	vices (if your co	inpany is forei	gn-owned, in	iciuae paym	ents to your	ioreign pare	nt for K&D)
k.	All othe	r purchased	services excep	ot R&D					
l.	All othe	r costs (includ	ding administrativ	e and overhead	costs clearly	associated v	vith your co	mpany's R&D)
			C	luestion cont	inues on ne	xt page			

2-8 (Continue	ed)							
D	(1) omestic			(2) Foreign			(3) Worldwide	
<u>\$Bil.</u> <u>N</u>	∕lil.	Thou.	<u>\$Bil.</u>	Mil.	Thou.	<u>\$Bil.</u>	Mil.	Thou.
m. Total								
Total equals	Ougstion	2.7. line 2	Total agua	le Ouestier	2-7, line b	Tot	al equals Ques	tion 2 1
Total equals	Zuestion Z	2-7, IIIIE a	Total equal	is Question	1 2-7, 11110 0	100	ai equais Ques	11011 2-4
2-9 Add 2-8,	lines i a	nd j for ead	ch column	, and ent	er the resu	It here.		
This is R		ormed by o	thers.					
D	(1) omestic			(2) Foreign			(3) Worldwide	
\$Bil.	∕lil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
		n 2-8, line			and enter	the resu	It here.	
This is R		ormed by y	our compa					
D	(1) omestic			(2) Foreign			(3) Worldwide	
\$Bil.	∕lil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
							&D was per	
		l ocations : /programs-surv					by Question Gu	dance at
	\$Bil.	Mil.	Thou.			\$Bil.	Mil.	Thou.
Canada				Gern				
				Gern	nany			
Puerto Rico				Gom	nany			
					nany gary			
_	45.0			Hung	gary			
Europe	\$Bil.	Mil.	Thou.	Hung				
		Mil.	Thou.	Hunç	gary			
Europe Austria		Mil.	Thou.	Hunç	gary			
Austria		Mil.	Thou.	Hung Irelai Italy	gary			
		Mil.	Thou.	Hung Irelai Italy	gary			
Austria		Mil.	Thou.	Hung Irelai Italy Luxe	gary			
Austria		Mil.	Thou.	Hung Irelai Italy Luxe	gary			
Austria		Mil.	Thou.	Hung Irelai Italy Luxe	gary			
Austria		Mil.	Thou.	Irelai Italy Luxe	gary			
Austria Belgium Czech Rep		Mil.	Thou.	Irelai Italy Luxe	gary			
Austria Belgium Czech Rep		Mil.	Thou.	Irelai Italy Luxe Neth	gary			
Austria Belgium Czech Rep Denmark		Mil.	Thou.	Irelai Italy Luxe Neth	gary nd mbourg erlands			
Austria Belgium Czech Rep Denmark Finland		Mil.	Thou.	Irelai Italy Luxe Neth Norv	gary nd mbourg erlands			
Austria Belgium Czech Rep Denmark			Thou.	Hung Irelai Italy Luxe Neth Norv Polai Russ	gary nd mbourg erlands vay			

2-11 (Continue	d)						
	\$Bil.	Mil.	Thou.		\$Bil.	Mil.	Thou.
Spain				New Zealand			
Sweden				Singapore			
Switzerland				South Korea			
Turkey				Taiwan			
United Kingdom				Thailand			
Other Europe				Other Asia/ Pacific			
Latin America/ Other Western Hemisphere	\$Bil.	Mil.	Thou.	Middle East	\$Bil.	Mil.	Thou.
Argentina				Israel			
Brazil				Other Middle East			
Chile				Africa	\$Bil.	Mil.	Thou.
Mexico				South Africa			
Other Latin America/OWH				Other Africa			
Asia and Pacific	\$Bil.	Mil.	Thou.	Total (equals Question 2-10,			
Australia				column 2)			
China							
Hong Kong							
India							
Indonesia							
Japan							
Malaysia							

		amount re ling D.C.) i		Ωuestion 2-10, colu	mn 1, w	as perforn	ned in
	\$Bil.	Mil.	Thou.	l	\$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			
		Qu	estion conti	nues on next page			

2-12 (Continued)						
	\$Bil. M	1iI. T	hou.		\$Bil.	Mil.	Thou.
Pennsylvania				Vermont			
Rhode Island				Virginia			
South Carolina				Washington			
South Dakota				West Virginia			
Tennessee				Wisconsin			
Texas				Wyoming			
Utah				Total (equals Question 2-10, column 1)			
Address 2							
City					State	ZIP	
2-14 How much column 1, v Question 2	was from th			uestion 2-10, ied in	\$Bil.	Mil.	Thou.

Address 1				
Address 2				
City		State	ZIP	
		\$Bil.	Mil.	-
	amount reported in Question 2-10, m the location identified in			
Question 2-15?				
			estic R&D p	nanv
Rusiness code		b	y your com	
Business code				
		b	y your com	
Business code a. b.		b	y your com	
a		b	y your com	
a		b	y your com	
a. 0000 b. 0000 c. 0000		b	y your com	
a		b	y your com	
a		b	y your com	
a		b	y your com	
a		b	y your com	pany
a		b	y your com	
a		b	y your com	
a		b	y your com	

R&D transactions between legal entities under cor	nmon ownership
2-18 How much of the domestic R&D performed by your co 2-10, column 1, was paid for by your company's foreign inter-company transactions?	
Example: Company Y owns a subsidiary in France. In order to complete the development of a product in 2017, the French subsidiary paid for R&D performed at Company Y's U.S. R&D center. The cost of the U.S. R&D that was paid for by the French subsidiary would be included in this item.	\$Bil. Mil. Thou.
2-19 How much of the foreign R&D performed by your com 2-10, column 2, was paid for by your company's dome inter-company transactions?	
Example: Company Z owns a subsidiary in France. In order to complete the development of a product in 2017, the domestic operations paid for R&D performed at its subsidiary's R&D center in France. The cost of the French subsidiary's R&D that was paid for by the domestic operations would be included in this item.	\$Bil. Mil. Thou.
R&D performed by others	
2-20 How much of the domestic R&D performed by others reported in Question 2-9, column 1, was performed by the following types of organizations?	\$Bil. Mil. Thou.
a. Companies located inside the United States	<u>UUU UUU</u>
b. Your company's foreign parent (if you are owned by a foreign parent)	00 000 000
c. Other companies located <u>outside</u> the United States	00 000 000
d. U.S. federal government agencies or laboratories	
e. U.S. state and local government agencies or laboratories.	
f. Universities, colleges, and academic researchers (includin principal investigators) located <u>inside</u> the United States	
g. All other organizations <u>inside</u> the United States	
h. All other organizations outside the United States	<u>UU UUU UUU</u>
 Total domestic R&D paid for by your company that was performed by others (equals Question 2-9, column 1). 	00 000 000



Activities with academia			
2-21 In addition to the amount reported in Question 2-20, line f monetary gifts to U.S. universities or colleges in 2017 that			
☐ Yes → Continue with Question 2-22			
No → Skip to Question 2-23			
	\$Bil.	Mil.	Thou.
2-22 What was the amount of monetary gifts made by your company to U.S. universities or colleges in 2017 that was for R&D?			
Projected R&D for 2018			
2-23 What are your company's projected 2018 costs for (1) dor (3) worldwide R&D paid for by your company?	mestic, (2) foreign, a	nd
NOTE: These amounts are the 2018 projections for the an reported in Question 2-8, line m.	nounts		
(1) Domestic \$Bil. Mil. Thou. \$Bil. Mil. Thou.	\$Bil.	(3) Worldwide Mil.	Thou.
		Domestic	
2-24 How much of the amount reported in Question 2-23, column 1, is for projected purchased R&D services	\$Bil.	Domestic Mil.	Thou.
	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.
column 1, is for projected purchased R&D services and projected payments to business partners for	\$Bil.		Thou.

SECTION 2 WORKSHEET

	Complete if amount reported in Question 2-4 is less tha	n \$1 Mill	ion
1	Of the total R&D paid for by your company reported in Question 2 were incurred in the following locations?	-4, what c	osts
	Domestic United States (50 states and D.C.) [Include R&D performed by domestic operations that is paid for by foreign subsidiaries]	\$Mil.	Thou.
	b. All other countries (also, Puerto Rico) [Include R&D performed by foreign subsidiaries that is paid for by domestic operations]		
	c. Total		
2	How much of the amount reported in Question 1, line a was for eatypes of costs?	sMil.	following Thou.
	a. Salaries, wages, and fringe benefits		
	b. Payments to business partners for collaborative R&D		
	c. Purchased R&D services		
	d. All other costs		
	e. Total (equals Question 1, line a)		
3	Add Question 2, lines a and d, and enter the result here. This is the domestic R&D paid for and performed by your company in 2017.	\$Mil.	Thou.
4	Of the domestic R&D paid for and performed by your company rep Question 3, how much was for the following categories?	oorted in	
	Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses	\$Mil.	Thou.
	b. Applied research—activities aimed at solving a specific problem or meeting a specific commercial objective		
	c. <u>Development</u> -systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes		
	d. Total (equals Question 3)		

Costs Paid For by Others

Who should answer this section?

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

What does this section cover?

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

th	hat were your company's <u>worldwide costs</u> (both direct a e following that were funded, paid for, or reimbursed by ur company?			
•	xclude: Costs that were paid for by your company, such as those reported in Payments in excess of the actual cost of the work performed (such a			
		\$Bil.	Mil.	Thou.
a.	R&D reimbursed by your company's foreign parent (if you are owned by a foreign parent)			
b.	Collaborative R&D reimbursed by business partners, such as through cost-sharing agreements			
C.	R&D paid for by grants (government or private foundations)			
d.	Defense R&D goods or services provided as a prime or as a sub, to the government and/or government contractors			
	 Exclude: Costs for projects that have achieved technical feasibility, such as low-rate initial production. Additional guidance is available online at https://www.census.gov/programssurveys/brds/information.html 			
e.	Medical clinical trial Phase I-III services provided to others not owned by your company (include pass-through costs)			
f.	Medical R&D services, other than clinical trials, provided to others not owned by your company			
g.	Nondefense custom software development and/or computer systems designed for others not owned by your company			
	 Exclude: Software development that does not depend on a scientific or technological advance, such as adding functionality to existing application programs, debugging systems, and adapting existing software 			
h.	Prototype development, production, and testing for customer's products prior to their introduction to the market (excluding defense-related prototyping reported in line d)			
i.	All other R&D services provided to the Federal Government or to others not owned by your company			
j.	Total			



3-1	(Continued)
	The amount entered in Question 3-1, line j is the total R&D paid for by others in 2017.
	ls this amount: \$0 → □ If Question 2-4 was also \$0, then you have completed this survey,
	otherwise skip to Section 4 on page 34.
	Less than \$1 Million → (500) Skip to Section 3 Worksheet on page 33 and then continue with Section 4 on page 34.
	\$1 Million or greater → Continue with Question 3-2.
R&D	paid for by others
3-2	Of the amount reported in Question 3-1, line j, what costs were incurred
	by your company in the following locations? \$\\\\$\\\$Bil. \\\\\$\\\\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	a. Domestic United States (50 states and D.C.)
	b. All other countries (also, Puerto Rico)
	b. All other countries (diso, i derto filco)
	c. Total (equals Question 3-1, line j)
3-3	How much of the (1) domestic, (2) foreign, and (3) worldwide R&D paid for by others
	in 2017 was for each of the following types of costs?
:	(1) (2) (3) Domestic Foreign Worldwide SBil. Mil. Thou. \$Bil. Mil. Thou. \$Bil. Mil. Thou.
	(1) (2) (3) Domestic Foreign Worldwide
	(1) (2) (3) Domestic Foreign Worldwide (Bil. Mil. Thou. \$Bil. Mil. Thou. \$Bil. Mil. Thou.
a. Sala	(1) (2) (3) Domestic Foreign Worldwide (Bil. Mil. Thou. \$Bil. Mil. Thou. \$Bil. Mil. Thou.
a. Sala	(1) Domestic Foreign Worldwide SBil. Mil. Thou. SBil. Mil. Thou. Thou. Thou. Thou. Thou. Thou.
a. Sala	(1) Domestic Foreign Worldwide SBil. Mil. Thou. SBil. Mil. Thou. Thou. Thou. Thou. Thou. Thou.
a. Sala	(1) Comestic Foreign Worldwide SBil. Mil. Thou. \$Bil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. Sk-based compensation
b. Sto	(1) Comestic Foreign Worldwide SBil. Mil. Thou. \$Bil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. SBil. Mil. Thou. Sk-based compensation
b. Sto	Cand Canal C
b. Sto	Ck-based compensation Sed employees or temporary staffing, including on-site consultants, working on R&D Sensed equipment (not capitalized)
b. Sto	Cand Canal C
a. Salab. b. Stor	ties, wages, and fringe benefits Ek-based compensation Sed employees or temporary staffing, including on-site consultants, working on R&D Sensed equipment (not capitalized)
a. Salab. b. Stor	Ck-based compensation Sed employees or temporary staffing, including on-site consultants, working on R&D Sensed equipment (not capitalized)
a. Salab. b. Stor	ties, wages, and fringe benefits Ek-based compensation Sed employees or temporary staffing, including on-site consultants, working on R&D Sensed equipment (not capitalized)



3-3	(Conti	nued)							
		(1) Domestic			(2) Foreign			(3) Worldwide	
	<u>\$Bil.</u>	Mil.	Thou.	\$Bil.	Mil.	Thou.	<u>\$Bil.</u>	Mil.	Thou.
g. De	epreciatio	n and amort	ization on F	&D propert	y, plant, an	d equipme	nt		
h. Ro	ovalties ar	nd licensing	fees (includin	ng payments n	nade to others	for the use o	f patents and	other forms of	intellectual
pr	operty used	in your compa	ny's R&D)	.g pa,			· patomo ama		
					D0 D / .				
ı. Pa	ayments to	business p	artners for	collaborativ	'e K&D (exclu	ude royalties	and licensing	fees)	
i Di	urahasad F	28.D. convice	C /if your com	nony io forci	an owned in	aluda navma	unto to your f	oreign parent t	For D9:D1
j. Pi	archaseu r	TOD SELVICE	s (ii your coii	ipany is forei	gn-owned, in		ints to your i	oreign parent	וטו המטן
k. Al	ll other pu	rchased ser	vices excep	t R&D					
I. Al	ll other co	sts (including	administrative	and overhead	costs clearly	associated	with your co	ompany's R&D)
m. T o	otal								
_									
	Total equa	als Question :	3-2, line a	Total equa	Is Question 3	3-2, line b	Total eq	uals Question	3-1, line j
3-4	V44 3	3, lines i a	nd i for oo	oh oolumn	and anta	r the recu	lt horo		
								gh R&D cos	sts).
		(1) Domestic			(2) Foreign			(3) Worldwide	
	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
-									
0 E	0.14	-4.0.6.6		6-			41		
3-5		ct 3-4 fron R&D perfo							
		(1) Domestic			(2) Foreign			— (3) Worldwide	
	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	Mil.	Thou.
-									

sus.gov/pr \$Bil.	ograms-surv	/l - /: f	-4: /DDDCI I I-4 I#O2 (y Question C	uidance at
	Mil.	Thou.	ation/BRDShelp.html#Q3-6	<u>2</u> . \$Bil.	Mil.	Thou.
			Switzerland			
			Turkey			
\$Bil.	Mil.	Thou.	United			
			Other			
			Latin America/ Other Western	AD		
			Hemisphere	\$Bil.	Mil.	Thou.
			Argentina			
			Brazil			
			Chile			
			Mexico			
			Other Latin America/OWH			
			Asia and Pacific	\$Bil.	Mil.	Thou.
			Australia			
			China			
			Hong Kong			
			India			
			Indonesia			
			Japan			
			Malaysia			
			New Zealand			
			Singapore			
				Turkey SBil. Mil. Thou. United Kingdom Other Europe Latin America/ Other Western Hemisphere Argentina Brazil Chile Other Latin America/OWH Asia and Pacific Australia China Hong Kong India Japan Malaysia New Zealand	Turkey SBil. Mil. Thou. United Kingdom Other Europe Latin America/ Other Western Hemisphere Argentina Brazil Chile Other Latin America/OWH Asia and Pacific Australia China Hong Kong India Japan Japan Malaysia New Zealand Singapore	Turkey

3-6 (Continue	d) \$Bil.	Mil.	Thou.	Africa	\$Bil.	Mil.	Thou.
South Korea				South Africa			
Taiwan				Other Africa Total (equals			
Thailand				Question 3-5, column 2)			
Other Asia/ Pacific							
Middle East	\$Bil.	Mil.	Thou.				
Israel							
Other Middle East							
3-7 How much	of the	domestic	P&D parform	and by your comm	any that	t wae naid	for by
	orted in	Question		ned by your comp 1, was for each b			
Allocate R	&D that i	is applicable	e to more that	n one business code acceptable unless son	on a rea	sonable basi	is.
basis is mo	re appropi	riate.					···
Busine	ss code				\$Bil.	Mil.	Thou.
Busine a.	ss code				\$Bil.	Mil.	Thou.
	ss code				\$Bil.	Mil.	Thou.
a	ss code				\$Bil.	Mil.	Thou.
a. b. c.	ss code				\$Bil.	Mil.	Thou.
a	ss code				\$Bil.	Mil.	Thou.
a	ss code				\$Bil.	Mil.	Thou.
a. b. c. d.	ss code				\$Bil.	Mil.	Thou.
a. b. c. d.	ss code				\$Bil.		Thou.
a	ss code				\$Bil.		
a. b. c. d. e. f. g.					\$Bil.		
a. b. c. d. e. f. g.					\$Bil.		

of the following? If your company is a subcontractor or subgrantee, report the or	iginal sou	rce of fun	ds.
Example: Company Sub Inc. performs custom software development a subcontractor on a contract with the U.S. Dept. of Defense. Even thou for the defense company, it reports the cost of this development in line was the original source of funds.	ugh Sub Ir	ıc. is workin	g directly
	\$Bil.	Mil.	Thou.
a. Other companies located <u>inside</u> the United States			
b. Your company's foreign parent (if you are owned by a foreign parent)			
c. Other companies located <u>outside</u> the United States			
d. U.S. federal government agencies or laboratories			
e. U.S. state government agencies or laboratories			
f. Foreign government agencies or laboratories			
g. Universities, colleges, and academic researchers (including principal investigators) located <u>inside</u> the United States			
h. Universities and colleges located <u>outside</u> the United States			
i. All other organizations <u>inside</u> the United States			
j. All other organizations <u>outside</u> the United States			
k. Total (equals Question 3-5, column 1)			
Add Question 3-8, lines a, b, and c, and enter the result here. This is the domestic R&D performed by	\$Bil.	Mil.	Thou.

3-10	Qu	est	ion	3-9) ba	ased	siness codes printed below, allocate the on the industries of the companies the ditional codes from pages 46-47 in the	at paid	for the R&	D.
		В	usir	ıess	coc	le	Description	ΦD:1	B.4.1	Τ.
	a.	3	2	5	4	3	Biotechnology-based pharmaceutical and biological products (except diagnostics)	\$Bil.	Mil.	Thou.
	b.	3	2	5	4	1	Pharmaceutical, medicinal, and botanical products manufacturing			
	С.	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.									
	h.									
	i.									

j. **Total** (equals Question 3-9)

How much of the amount reported in Question 3-8, lir was paid for by the following agencies?	1e d, \$Bil.	Mil.	Thou.
a. Department of Defense			
1.5			
b. Department of Energy			
c. National Aeronautics and Space Administration			
·			
d. National Institutes of Health			
e. Department of Homeland Security			
f. Department of Transportation			
g. Environmental Protection Agency			
h. National Science Foundation			
i. All other, please specify:			
	🖳		
j. Total (equals Question 3-8, line d)			
How much of the amount reported in Question 3-8, lir	ne d.		
was performed under the following types of agreemen	nts?		
Contracts (include disease or miner contracts and	\$Bil.	Mil.	Thou
a. Contracts (include direct or prime contracts and subcontracts)			
b. Grants, reimbursements, and all other agreements	· · · · · <u> </u>		
Total (anuala Ouastian 2.0 line d)			
c. Total (equals Question 3-8, line d)			
Subtract Question 3-8, line d, from Question 3-8, line	k. \$Bil.	Mil.	Thou
and enter the result here. This is the domestic R&D	K , \$5		
performed by your company that was paid for by nonfederal sources.			

(inclu (1) [ding D.C.):	•			as performe		state ed in Quest	ion 3-8,
(2) E (3) T	Domestic R Total dome		erformed	by your o	urces repor company the		estion 3-13 id for by oth	ners
\$Bil.	(1) Federal Mil.	Thou.	\$Bil.	(2) Nonfeder Mil.	al Thou.	\$Bil.	(3) Total Mil.	Thou.
Alabama	<u></u>	<u></u>	<u> </u>	<u></u>	<u>a.</u>	<u> </u>	<u></u>	<u></u>
Alaska								
Arizona								
Arkansas								
California								
Colorado								
Connecticut								
Delaware		ı				ı		ı
District of Col	lumbia							
Florida								
Georgia								
Hawaii								
		0	uestion c	ontinues o	next page			

3-14 (Conti	nued) (1) Federal			(2) Nonfederal			(3) Total	
\$Bil.	Federal Mil.	Thou.	<u>\$Bil.</u>	Nonfederal Mil.	Thou.	<u>\$Bil.</u>	Total <u>Mil.</u>	Thou.
Idaho								
Illinois								
Indiana								
lowa								
lowa								
Kansas								
Kentucky								
Louisiana								
Maine								
Maryland								
Massachusetts								
Michigan								
Minnesota								
Mississippi								
		Q	uestion co	ontinues on n	ext page			

3-14 (Con	rtinued)							
	(1) Federal	-	AD: 1	(2) Nonfederal	-	ΦD'I	(3) Total	-
\$Bil. Missouri	Mil.	Thou.	\$Bil.	Mil.	Thou.	\$Bil.	<u>Mil.</u>	<u>Thou.</u>
Montana								
Nebraska								
Nevada								
New Hamps	hire							
New Jersey								
New Mexico								
New York								
North Caroli	na							
North Dakot	a							
Ohio								
Oklahoma								
Oregon								
		Q	uestion co	ontinues on n	ext page			

3-14 (Contin				(2)			(3)	
\$Bil. Pennsylvania	(1) Federal Mil.	Thou.	\$Bil.	(2) Nonfederal <u>Mil.</u>	Thou.	\$Bil.	(3) Total <u>Mil.</u>	<u>Thou.</u>
remisylvama								
Rhode Island								
South Carolina								
South Dakota								
Tennessee								
Texas								
Utah								
Vermont								
Virginia								
Washington								
West Virginia								
Wisconsin								
Wyoming								
		Q	uestion c	ontinues on n	ext page			

3-14	(Contin	nued)							
		(1)			(2)			(3)	
	\$Bil.	Federal Mil.	Thou.	\$Bil.	Nonfederal	Thou.	\$Bil.	Total Mil.	Thou.
Total	<u>фЫІ.</u>	<u>IVIII.</u>	<u>1110u.</u>	<u>ФDII.</u>	<u>IVIII.</u>	mou.	<u>фЫІ.</u>	<u>IVIII.</u>	<u>IIIOu.</u>
Total			1						
_									
	Total equa	als Question	3-8, line d	Total	equals Question	3-13	Total equals (Question 3-	5, column 1
3-15	At wha	it <u>domesti</u>	c location	did you	company per	rform the	e largest do	llar amou	int of
		_	id for by o	thers in	2017?				
	Address	s 1							
							I I I I		
	Address	s 2							
	City						State	ZIP	
	City						State		
3-16	Ном т	uch of the	amount r	anortad	in Question 3	-5	\$Bil.	Mil.	Thou.
3-10			om the loc			-5,			
		on 3-15?							
2 47	A4b.a	4 40	a lagation	مانما برمین		fa 41a		maat dall	
3-17					company per y others in 20		e secona iai	gest doll	ar
	Address		mac mao p		, саного на 20				
	Addios								
	Address	s 2							
							I I I I		
	City						State	ZIP	
							¢D:I	N.4:1	There
3-18					in Question 3	-5,	\$Bil.	Mil.	Thou.
			om the loc	ation id	entified in				
	Questi	on 3-17?							

R&D performed by others			
3-19 Of the domestic R&D performed by others reported	\$Bil.	Mil.	Thou.
in Question 3-4, column 1, how much was paid for by U.S. federal government agencies or laboratories?			
Projected R&D paid for by others in 2018			
3-20 What are your company's projected 2018 costs for R&D that will be paid for by others?	\$Bil.	Mil.	Thou.
NOTE: This amount is the 2018 projection for what is reported in Question 3-1, line j.			
3-21 How much of the projected costs in 2018 for R&D that will be paid for by others reported in Question 3-20 will be performed by your company in the United States?	\$Bil.	Mil.	Thou.
NOTE: This amount is the 2018 projection for what is reported in Question 3-5, column 1.			
3-22 How much of the projected costs in 2018 for domestic R&D performed by your company reported in Question 3-21 will be paid for by the U.S. federal government?	\$Bil.	Mil.	Thou.
NOTE: This amount is the 2018 projection for what is reported in Question 3-8, line d.			

SECTION 3 WORKSHEET

	implete if amount reported in Question 3-1, line j is less	unan ə i	willion
1	Of the total R&D paid for by others reported in Question 3-1, line were incurred in the following locations?	j, what co	sts
		\$Mil.	Thou.
	a. Domestic United States (50 states and D.C.)		
	b. All other countries (also, Puerto Rico)		
	c. Total		
2	How much of the amount reported in Question 1, line a, was for e	ach of the	
	following types of costs?	\$Mil.	Thou.
	a. Salaries, wages, and fringe benefits		
	b. Payments to business partners for collaborative R&D		
	c. Purchased R&D services		
	d. All other costs		
	e. Total (equals Question 1, line a)		
3	Add Question 2, lines a and d, and enter the result here. This is the domestic R&D performed by your company that was paid for by others in 2017.	\$Mil.	Thou.
4	Of the domestic R&D performed by your company that was paid f reported in Question 3, how much was for the following categories		ers
	Basic research—activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses	\$Mil.	Thou.
	b. Applied research—activities aimed at solving a specific problem or meeting a specific commercial objective		
	c. <u>Development</u> –systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes		
	d. Total (equals Question 3)		



Capital Expenditures

Who should answer this section?

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

What does this section cover?

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

4-1	What was the amount of your company's capital expenditures in the domestic United States in 2017?	\$Bil.	Mil.	Thou.
4-2	How much of the amount reported in Question 4-1 was for R&D operations?	\$Bil.	Mil.	Thou.
4-3	How much of the amount reported in Question 4-2 was for the following?	\$Bil.	Mil.	Thou.
	a. Land and structures			
	b. Equipment			
	c. Capitalized software			
	d. All other capital expenditures for R&D operations			
	e. Total domestic capital expenditures for R&D (equals Question 4-2)			
4-4	Was any of the amount reported in Question 4-2 funded, paid for, or reimbursed by others not owned by your company (including your foreign parent)?			□ No



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.

1

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

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

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

	%
	/0

Thou.

Thou.

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

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

\$Bil.	Mil.	Thou.			

Mil.

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

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

c. **Total** (equals Question 5-2).....

?	\$Bil.	Mil.				

\$Bil.

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

<u>Applied research</u> –activities aimed at solving a specific problem or meeting a specific commercial objective			
Basic research—activities aimed at acquiring new knowledge or understanding without specific immediate			



5-4

	Areas of application for domestic R&D paid for and performed by your company					
NOTE	: You may report the same R&D in multiple areas for Questions 5-5 to 5-9	9.				
5-5	What percentage of the amount reported in Question 5-2 had energy applications, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?					
	Example: Company B is a semiconductor manufacturer. Its products are not designed specifically for energy applications. In 2017, 10% of the domestic R&D performed by the company was focused on improving the energy efficiency of its products. Based on this, Company B reports "10%" for this question.	<u></u> %				
5-6	What percentage of the amount reported in Question 5-2 had environmental protection applications, including pollution abatement?	<u>%</u>				
5-7	What percentage of the amount reported in Question 5-2 had defense applications, including military applications and homeland security-related R&D?	<u>%</u>				
5-8	What percentage of the amount reported in Question 5-2 had health or medical applications?	<u>%</u>				
5-9	What percentage of the amount reported in Question 5-2 had agricultural applications?					
Technology focus of domestic R&D paid for and performed by your company						
NOTE	: You may report the same R&D in multiple areas for Questions 5-10 to 5	-12.				
5-10	What percentage of the amount reported in Question 5-2 was for software products or software embedded in other projects or products?					
5-11	What percentage of the amount reported in Question 5-2 was for biotechnology? For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/BRDShelp.html#Q5-11					
	Biotechnology – The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.	<u>%</u>				
5-12	What percentage of the amount reported in Question 5-2 was for nanotechnology? For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/BRDShelp.html#Q5-12					
	Nanotechnology – The application of science and technology to organisms, organic and inorganic materials as well as parts, products, and models thereof, at the nanometer-scale (but not exclusively below 1000 nanometers).	<u>%</u>				



Char	acteristics of foreign R&D paid for and performe	d by yo	ur comp	any
5-13	Copy the amount from Question 2-10, column 2. This is the foreign R&D paid for and performed by your company.	\$Bil.	Mil.	Thou.
5-14	How much of the foreign R&D paid for and performed by your company reported in Question 5-13 was for the following categories?	\$Bil.	Mil.	Thou.
	a. Research-planned, systematic pursuit of new knowledge or understanding			
	b. <u>Development</u> -systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.			
	c. Total (equals Question 5-13)			
	estic R&D performed by your company that was the amount reported in Question 3-1, line j was less than \$1 Millio Copy the amount from Question 3-5, column 1. This is the domestic R&D performed by your company that was paid for by others.		-	
5-16	How much of the amount reported in Question 5-15 was for the following categories? a. Research-planned, systematic pursuit of new	\$Bil.	Mil.	Thou.
	 knowledge or understanding b. <u>Development</u>-systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes c. Total (equals Question 5-15) 			
5-17	If you reported any research in Question 5-16, line a, how			
	much of that research was for the following categories?	\$Bil.	Mil.	Thou.
	a. Applied research—activities aimed at solving a specific problem or meeting a specific commercial objective			
	b. Basic research–activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses			
	c. Total (equals Question 5-16, line a)			



NOTE: You may report the same R&D in multiple areas for Questions 5-18 to 5	i-22.
5-18 What percentage of the amount reported in Question 5-15 had energy applications, including energy production, distribution, storage, and efficiency (excluding exploration and prospecting)?	%
What percentage of the amount reported in Question 5-15 had environmental protection applications, including pollution abatement?	9/0
What percentage of the amount reported in Question 5-15 had defense applications, including military applications and homeland security-related R&D?	%
5-21 What percentage of the amount reported in Question 5-15 had health or medical applications?	%
5-22 What percentage of the amount reported in Question 5-15 had agricultural applications?	%
Technology focus of domestic R&D performed by your company paid for by others	that was
NOTE: You may report the same R&D in multiple areas for Questions 5-23 to 5	i-25.
5-23 What percentage of the amount reported in Question 5-15 was for software products or software embedded in other projects or products?	%
What percentage of the amount reported in Question 5-15 was for biotechnology? For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/BRDShelp.html#Q5-24	
Biotechnology – The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.	%
What percentage of the amount reported in Question 5-15 was for nanotechnology? For list-based definition see Question by Question Guidance at https://www.census.gov/programs-surveys/brds/information/BRDShelp.html#Q5-25	
Nanotechnology – The application of science and technology to organisms, organic and inorganic materials as well as parts, products, and models thereof, at the nanometer-scale (but not exclusively below 1000 nanometers).	%

Domestic R&D performed by your company that was U.S. federal government	paid fo	or by the	
5-26 Copy the amount from Question 3-8, line d. This is	\$Bil.	Mil.	Thou.
the domestic R&D performed by your company that was paid for by the U.S. federal government.			
5-27 How much of the amount reported in Question 5-26 was for the following categories?	\$Bil.	Mil.	Thou.
a. Research-planned, systematic pursuit of new knowledge or understanding			
b. <u>Development</u> -systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes			
c. Total (equals Question 5-26)			
5-28 If you reported any research in Question 5-27, line a, how much was for the following categories?	\$Bil.	Mil.	Thou.
 a. <u>Applied research</u>-activities aimed at solving a specific problem or meeting a specific commercial objective 			
b. Basic research—activities aimed at acquiring new knowledge or understanding without specific immediate commercial applications or uses			
c. Total (equals Question 5-27, line a)			
5-29 What percentage of the amount reported in Question 5-26 for software products or software embedded in other proor products?			%
Characteristics of foreign R&D performed by your co for by others	mpany	that was	paid
5-30 Copy the amount from Question 3-5, column 2. This is the foreign R&D performed by your company and paid for by others.	\$Bil.	Mil.	Thou.
5-31 How much of the amount reported in Question 5-30 was for the following categories?	\$Bil.	Mil.	Thou.
a. Research-planned, systematic pursuit of new knowledge or understanding			
b. Development —systematic work, drawing on research and practical experience and resulting in additional knowledge, which is directed to producing new products or processes or to improving existing products or processes			
c. Total (equals Question 5-30)			



SECTION 6

Human Resources

Who should answer this section?

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

What does this section cover?

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

6-1 How many employees reported in Question 1-8 were <u>R&D employees</u> and how many were all other employees?

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

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

Total line equals Question 1-8

R&D employees

6-2	How many of the R&D ememployees and male emp	Question 6-1, line a, (2) Foreign operations	were <u>female</u> (3) Total R&D employees
	a. Female R&D employees		
	b. Male R&D employees		
	c. Total R&D employees		

Total line equals Question 6-1, line a



6-3	How many of the R&D en		Question 6-1, line a,	worked in the	
	a. Researchers (including R&D scientists,	(1) Domestic operations	(2) Foreign operations	(3) Total R&D employees	
	engineers, and their managers)			000000	
	b. R&D technicians and equivalent staff				
	c. R&D support staff (clerical and other)				
	d. Total R&D employees				
		Total	line equals Question 6-1,	line a	
6-4	How many of the researc	hers reported in Ques	stion 6-3, line a, had	the following	
	level of education?	(1) Domestic Operations	(2) Foreign Operations	(3) Total	
	PhD (excluding MD, JD, and EdD)				
Don	nestic full-time equiva	lents (FTEs)			
6-5	Of the domestic R&D em was the number of full-ti employees, other full-times	me equivalents (FTEs)	for R&D activity for	r full-time R&D	
	employees?			Number	
	a. FTEs for full-time R&D en	• •	ork only on R&D	. 00000	
	Example: 50 full-time R&D employee	s worked only on R&D = 5	0 FTEs		
	b. FTEs for other full-time e	mplovees not working s	solely on R&D		
	Use the share of the time number of FTEs	they work on R&D to	calculate the	. 000000	
	Example: 60 full-time employees averaged one-fourth of their time on R&D = 15 FTEs				
	c. FTEs for part-time emplo	vees working on R&D			
	Use the share of a full-tir on R&D to calculate the I	ne week (such as 40 ho			
	Example: 20 part-time employees av	eraged 20 hours a week or	n R&D activities = 10 FTE	es	
	d. Total FTEs			. 000000	
		Total FTEs shou	ıld not exceed Questio	n 6-1, line a, column 1.	



6-6	Of the domestic researchers reported in Question 6-3, line a, column 1, what was the number of full-time equivalents (FTEs) for R&D activity for full-time R&D employees, other full-time employees not working solely on R&D, and part-time employees?
	a. FTEs for full-time researchers Count the number of full-time employees who work only on R&D
	Example: 50 full-time R&D scientists worked only on R&D = 50 FTEs
	b. FTEs for other full-time researchers not working solely on R&D Use the share of the time they work on R&D to calculate the number of FTEs
	Example: 60 full-time managers averaged one-fourth of their time on R&D = 15 FTEs
	c. FTEs for part-time researchers working on R&D Use the share of a full-time week (such as 40 hours) that they work on R&D to calculate the FTEs
	Example: 20 part-time employees averaged 20 hours a week on R&D activities = 10 FTEs
	d. Total FTEs
6-7	How many of the domestic researchers reported in Question 6-3, line a, column 1, were non-U.S. citizens employed in the United States under a temporary visa, such
	as H-1B or L-1? (1) Domestic Operations
	Researchers employed under a temporary visa



SECTION 7

Intellectual Property and Technology Transfer

Who should answer this section?

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

What does this section cover?

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

Are responses to this survey confidential?

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

_				2 - 1 - 2	patents
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		244			

7-1	How many total patents did your company <u>apply</u> for in 2017 from the U.S. Patent and Trademark Office (USPTO)?	Number
7-2	Of the patent applications reported in Question 7-1, what was the number of nonprovisional utility patent applications?	Number
7-3	What percentage of the <u>nonprovisional utility patent</u> applications reported in Question 7-2 has your company applied for or plans to apply for in foreign jurisdictions?	%
7-4	What percentage of the <u>nonprovisional utility patent</u> applications reported in Question 7-2 was for inventions that originated within your company's organized R&D activities?	%
7-5	What percentage of your company's inventions <u>considered</u> for patenting in 2017 resulted in nonprovisional utility patent applications?	%
7-6	How many <u>utility patents</u> were <u>issued</u> to your company in 2017 by the USPTO?	Number



Utility patent sales and licensing to others			
7-7 How much revenue did your company receive in 2017 from the sale of utility patents?	\$Bil.	Mil.	Thou.
7-8 How much revenue did your company receive in 2017 from utility patent licensing?	\$Bil.	Mil.	Thou.
7-9 Was any of the revenue reported in Questions 7-7 or 7-8 received from companies or organizations located outside the United States?		☐ Yes	□ No
Utility patent purchases and licensing from others			
7-10 How much did your company pay others in 2017 to purchase utility patents?	\$Bil.	Mil.	Thou.
7-11 How much did your company pay others in 2017 to license utility patents?	\$Bil.	Mil.	Thou.
7-12 Were any of the payments reported in Questions 7-10 or 7-11 made to companies or organizations located outside the United States?		☐ Yes	□ No

Intellectual property transfer activities		
7-13 Did your company perform the following activities in 2017?		
Transferred intellectual property (IP) to others not owned by your company through participation in technical assistance or "know how" agreements	☐ Yes	□ No
b. Received IP from others not owned by your company through participation in technical assistance or "know how" agreements	Yes	□ No
c. Transferred IP to a spin-off or spin-out of your company	Yes	□ No
d. Received IP from a parent company as part of a spin-off or spin-out	Yes	□ No
e. Acquired more than 50% ownership in another company for the primary purpose of acquiring their IP	Yes	□ No
f. Acquired any financial interest in another company in order to gain access to their IP	Yes	□ No
g. Participated in cross-licensing agreements—the agreements in which two or more parties grant a license to each other for the use of the subject matter claimed in one or more of the patents owned by each party	☐ Yes	□ No
h. Allowed free use of patents or other IP owned by your company (for example, open source software)	☐ Yes	□ No
i. Made use of open source patents or other freely available IP not owned by your company	☐ Yes	□ No
Intellectual property protection		
7-14 During 2017, how important to your company were the following types of intellectual property protection? Very important	Somewhat important	Not important
a. Utility patents (patents for invention)		
b. Design patents (patents for appearance)		
b. Design patents (patents for appearance)		
c. Trademarks		
c. Trademarks		
c. Trademarks. d. Copyrights e. Trade secrets		
c. Trademarks	U Yes	
c. Trademarks. d. Copyrights e. Trade secrets f. Mask works (copyright protection for semiconductor products) Research and experimentation tax credit 7-15 Did your company file for the tax credit for increasing	Yes	
c. Trademarks. d. Copyrights e. Trade secrets f. Mask works (copyright protection for semiconductor products) Research and experimentation tax credit 7-15 Did your company file for the tax credit for increasing	Yes	



	iess codes	Consu	mer Goods
(used i	n Sections 1, 2, and 3)	33333	Digital cameras manufacturing
Aerosp	ace and Defense	33430	Audio and video equipment manufacturing
33642	Aircraft engine and engine parts manufacturing	31210	Beverage manufacturing
33641	Aircraft manufacturing	33200	Fabricated metal products manufacturing
33644	Guided missiles, space vehicles, and parts	31100	Food manufacturing
	manufacturing	33700 32300	Furniture and related products manufacturing Printing and related support activities
33692	Military armored vehicle, tank, and tank	32591	Soap, cleaning compound, and toilet
	components manufacturing	32331	preparations manufacturing
33452	Search, detection, navigation, guidance,	31990	Textile, apparel, and leather products
	aeronautical, and nautical system and	0.000	manufacturing
22220	instruments manufacturing	31220	Tobacco manufacturing
33660 33643	Ship and boat building Other aircraft parts and auxiliary equipment	33990	Miscellaneous manufacturing not listed
33043	manufacturing		elsewhere (games, office supplies,
	manaraotanng		slot machines, etc.)
Autom	obiles, Motorcycles, and Components	l _	
33620	Motor vehicle body and trailer manufacturing	Energy	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 Oil and gas extraction
33699	All other transportation equipment	32401	Petroleum refineries
	manufacturing	21300	Support activities for mining,
Capital	Equipment		including oil and gas
33311	Agricultural machinery and equipment		
	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
22212	manufacturing	53100	Real estate
33312 33500	Construction machinery manufacturing Electrical equipment, appliances, and	52310	Securities, commodity contracts, and other
33300	components manufacturing		financial investments and related activities
33360	Engine, turbine, and power transmission		(including funds and trusts)
	equipment manufacturing	Health	care
33322	Industrial machinery manufacturing, except	32543	
	semiconductor machinery	32343	Biotechnology-based pharmaceutical and biological products (except diagnostics)
33390	Metalworking and other general purpose	33451	Electromedical, electrotherapeutic, and
	machinery manufacturing	00.0.	irradiation apparatus manufacturing
33319	Mining, oil, and gas field machinery and	62200	Hospitals and nursing care facilities
33331	equipment manufacturing Photographic and photocopying equipment	32542	In vitro diagnostic substances manufacturing
33331	manufacturing	62150	Medical and diagnostic laboratories
l	o	33910	Medical equipment and supplies manufacturing
l .	cals and Materials	62110	Offices of physicians
32402	Asphalt paving, roofing, and saturated	32541	Pharmaceutical, medicinal, and botanical products manufacturing
	materials manufacturing	54173	Research and development services
32510	Basic chemicals manufacturing	3,5	in biotechnology
32790	Cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing	54174	Research and development services
32710	Clay and glass products manufacturing		in physical, engineering, and life sciences
21200	Mining		(except biotechnology)
32592	Paint, adhesive, and other chemical	62199	Other ambulatory health care services
	manufacturing		(ambulance, dental, home health care)
32200	Paper manufacturing		
32530	Pesticide, fertilizer, and other agricultural		
00000	chemical manufacturing		
32600	Plastics and rubber products manufacturing		
33100 32520	Primary metal manufacturing Resin, synthetic rubber, and artificial		
32320	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		
I		1	



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
00004	components manufacturing
33321	Semiconductor machinery manufacturing
51120	Software publishers (except Internet)
33421	Telephone apparatus manufacturing
40500	including routers, modems, and gateways
42500	Wholesale electronic markets and
00400	agents and brokers (business to business)
33429	Other communication equipment
	manufacturing (except radio, television,
51910	and wireless communication equipment)
51310	Other information services, including
	Internet publishing, broadcasting, and web search portals
	and web search portais

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

O tiloi O	0.1.000
72000 56100	Accommodation and food services 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)
0.000	Caron contract (not noted bloowing)



the information	reported in this su	rvey reported f	or the 2017 cal	endar year?
Yes				
	me period covered I	to (MM)	(YYYY)	
approximately hov	v long did it take to	o complete this	s survey?	Hours Minut
demarks (Please use eported data.)	this space below for	any explanations	that may be esser	ntial in understanding your

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

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

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

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

