

2007 Survey of Industrial Research and Development: R&D MANAGER SECTION

Jointly conducted by the
U.S. Census Bureau and the
National Science Foundation

Due: March 6, 2008

To return by mail:
U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132-0001

To file electronically:
www.census.gov/econhelp/rd
UID:
Password:

For information or assistance:
www.census.gov/econhelp/rd

To speak with an analyst:
1-800-851-2014, option "0"
(8:00 a.m. – 5:00 p.m. EST, M-F)
OR

Write to the address above.
Include your 11-digit Identification
Number (ID) printed in the mailing
address.

Please correct any errors in this mailing address

Please forward this form to the appropriate personnel with knowledge of this company's R&D activities.

This form asks for information on R&D and related activities, including:

- R&D focus, objectives, and applications
- Types of R&D (Basic, Applied, Development)
- R&D business areas, existing and new
- Funding sources for R&D
- Organization of R&D activities

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the U.S. Census Bureau.

By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.**

- It may be seen only by persons sworn to uphold the confidentiality of Census Bureau information and may be used only for statistical purposes.
- Copies retained in respondents' files are immune from legal process.

Contact this company's survey coordinator to verify the amounts that should be entered for questions 1, 2, 3 and 4.

1. In 2007, what was the total R&D expense for this company in the 50 United States and the District of Columbia, and Worldwide (including all U.S. expenditures)?

- The amount(s) reported here should equal those reported in question 1 on the R&D Finance Section of the form.

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

Total R&D expense in 2007 (Enter 0 if none).....

\$	\$

2. Of the amount(s) reported in question 1, what were the amounts for R&D services performed by other organizations, including both contract research as well as gifts or grants this company may have made to support R&D?

- The amount(s) reported here should equal those reported in question 3J on the R&D Finance Section of the form.
- If amount reported in question 1 is zero, skip to question 3.

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

Total expense for R&D performed by other organizations in 2007 (Enter 0 if none).....

\$	\$

3. In 2007, what was the cost incurred by this company for R&D that was funded or paid for by an unaffiliated 3rd party?

- *The amount(s) reported here should equal those reported in question 12 on the R&D Finance Section of the form.*
- *Report only the cost incurred for R&D, not the amount of funding or payments received.*

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

Cost incurred by this company in 2007, funded or paid for by an unaffiliated 3rd party (Enter 0 if none).....

\$	\$
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3A. Were BOTH of the amounts reported in questions 1 and 3 zero?

Yes – Skip to question 34

No – Go to question 4

4. Of the amount(s) reported in question 3, what was the amount funded or paid for by the Federal government, including R&D contracts, R&D grants, and other Federal payments/reimbursements for R&D?

- *The amount(s) reported here should equal those reported in question 15B on the R&D Finance Section of the form.*

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

Amount funded or paid for by the Federal government in 2007 (Enter 0 if none).....

\$	\$
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4A. Were either of the amounts reported in question 1 greater than zero?

Yes – Complete questions 5-21.

No – Go to question 22.

5. Of the amount(s) reported in question 1, column 1 (Total R&D expense, United States only), what are the amounts for the following categories according to this company's primary objective for the R&D?

2007

50 United States
and D.C.

Estimates are acceptable

A. Development of new or significantly improved products, services, or processes (*Enter 0 if none*).....

\$

B. Applied Research to solve scientific/technical problems directly related to current or planned products, services, or processes (*Enter 0 if none*).....

\$

C. Directed Basic Research to acquire knowledge directly related to current or planned products, services, or processes without a specific scientific/technical problem (*Enter 0 if none*).....

\$

D. Pure Basic Research to increase the company's base of knowledge with no expectation of producing marketable scientific/technical findings (*Enter 0 if none*).....

\$

*Should equal amount
reported in
question 1, column 1.*

E. TOTAL of lines 5A through 5D (Equals amount reported in question 1).....

\$

6. Of the amount reported in question 1, column 1 (Total R&D expense in the United States), what are the amounts for the following categories related to this company's business and technical experience?

		R&D in field(s) of science/technology in which this company has experience?	
		YES	NO
R&D is directed toward business areas in which this company has experience?	YES	\$	\$
	NO	\$	\$

7. Of the amount reported in question 1, column 2 (Total R&D expense Worldwide, including U.S.), what are the amounts for the following categories related to this company's business and technical experience?

		R&D in field(s) of science/technology in which this company has experience?	
		YES	NO
R&D is directed toward businesses in which this company has experience?	YES	\$	\$
	NO	\$	\$

8. Of the amounts reported in question 1 (Total R&D expense), what are the amounts for the following categories according to how the R&D relates to science/technology in the marketplace?

2007

50 United States and D.C. Worldwide (Includes U.S.)

Estimates are acceptable

- A. R&D to replicate or adopt science/technology currently in use in the marketplace *(Enter 0 if none)*.....
- B. R&D to improve upon science/technology currently in use in the marketplace *(Enter 0 if none)*.....
- C. R&D in science/technology new to the marketplace *(Enter 0 if none)*.....

\$		\$	
\$		\$	
\$		\$	

Should equal amounts reported in question 1.

D. TOTAL of lines 8A through 8C

\$		\$	
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9. Of the amount reported in Question 1, column 1 (total R&D expense, United States only) what are the amounts for the following categories according to the primary application of the R&D?

2007

50 United States
and D.C.

Estimates are acceptable

A.	Agricultural production and technology (Enter 0 if none).....	\$
B.	Business/office productivity (Enter 0 if none).....	\$
C.	Commerce/finance (Enter 0 if none).....	\$
D.	Defense (including military applications and general security related R&D) (Enter 0 if none)	\$
E.	Exploration and use of non-agricultural natural resources (Enter 0 if none)...	\$
F.	Exploration and use of space (Enter 0 if none).....	\$
G.	Household goods and home entertainment (Enter 0 if none).....	\$
H.	Industrial production and technology (Enter 0 if none)	\$
I.	Non-oriented R&D (no specific application) (Enter 0 if none).....	\$
J.	Pollution abatement (Enter 0 if none).....	\$
K.	Production, distribution and use of energy - Include R&D to improve energy efficiency. Exclude R&D related to prospecting. (Enter 0 if none).....	\$
L.	Protection and improvement of human health (Enter 0 if none).....	\$
M.	Transportation (Enter 0 if none).....	\$
N.	Other (please specify) <input type="text"/>	\$
O.	TOTAL of lines 9A through 9N.....	\$

Should equal amount
reported in
question 1, column 1

TECHNOLOGY FOCUS / TYPE OF R&D

10. What was the cost of software development included in question 1, column 1 (total R&D expense, United States only) for the following categories?

2007

50 United States and D.C.

Estimates are acceptable

A. Operating systems <i>(Enter 0 if none)</i>	\$	
B. Business applications <i>(Enter 0 if none)</i>	\$	
C. Other packaged software <i>(Enter 0 if none)</i>	\$	
D. Software embedded in other projects <i>(Enter 0 if none)</i>	\$	
E. Other <i>(please specify)</i> <input style="width: 200px; height: 20px;" type="text"/>	\$	
F. TOTAL of 10A through 10E.....	\$	

2007

50 United States and D.C.

Estimates are acceptable

11. What was the cost of biotechnology R&D included in question 1, column 1 (United States only)? *(Enter 0 if none)*.....

\$	
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12. What was the cost of nanotechnology R&D included in question 1, column 1 (United States only)? *(Enter 0 if none)*.....

\$	
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13. What was the cost of social sciences R&D included in question 1, column 1 (United States only)? *(Enter 0 if none)*.....

\$	
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2007

50 United States and D.C.

Estimates are acceptable

14. What was the cost of R&D for new/improved processes included in question 1, column 1 (United States only)? (Enter 0 if none).....

\$

15. What was the cost of clinical trials included in question 1, column 1 (United States only)? (Enter 0 if none).....

\$

16. What was the cost of production and testing of prototypes included in question 1, column 1 (United States only)? (Enter 0 if none).....

\$

17. What was the cost for the operation of pilot plants included in question 1, column 1 (United States only)? (Enter 0 if none).....

\$

R&D PROJECTS

2007

Number of Project Worldwide (including U.S.)

18. As of January 1, 2007, how many R&D projects funded by this company were active worldwide (including U.S.)? (Enter 0 if none).....

19. How many new R&D projects funded by this company were started in 2007 worldwide (including U.S.)? (Enter 0 if none).....

20. How many R&D projects in 2007 financed by this company moved from R&D into production or marketing worldwide (including U.S.)? (Enter 0 if none).....

Cost for Largest Project Worldwide (Including U.S.)

21. In 2007, what were the costs associated with the single largest R&D project funded by this company worldwide (including U.S.)?.....

\$

R&D SERVICES PERFORMED BY OTHER ORGANIZATIONS

22A. Was the amount reported in question 2, column 1 (United States only) greater than zero?

- Yes – Complete questions 22b through 24.
- No – Skip to question 25.

22B. Of the amount reported in question 2, column 1 (United States only), what are the amounts for the following categories according to this company's primary objective for the R&D?

2007

*50 United States
and D.C.*

Estimates are acceptable

- A. Development of new or significantly improved products, services, or processes *(Enter 0 if none)*.....
- B. Applied Research to solve scientific/technical problems directly related to current or planned products, services, or processes *(Enter 0 if none)*.....
- C. Directed basic research to acquire knowledge directly related to current or planned products, services, or processes without a specific scientific/technical problem *(Enter 0 if none)*.....
- D. Pure basic research to increase the company's base of knowledge with no expectation of producing marketable scientific/technical findings *(Enter 0 if none)*.....

\$
\$
\$
\$

*Should equal amount
reported in
question 2, column 1*

E. TOTAL of lines 22A through 22D.....

\$

2007

*50 United States
and D.C.*

Estimates are acceptable

23. What was the cost of clinical trials (phases 1 through 3) included in question 2, column 1 (United States only)?
(Enter 0 if none).....

\$

2007

50 United States
and D.C.

Estimates are acceptable

24. What was the cost of production and testing of prototypes included in question 2, column 1 (United States only)? (Enter 0 if none).....

\$

R&D FUNDED OR PAID FOR BY AN UNAFFILIATED 3RD PARTY

25A. Was the amount reported in question 3, column 1 (United States only) greater than zero?

Yes – Complete questions 25b through 31.

No – Skip to question 32.

25B. Of the amount reported in question 3, column 1 (R&D funded or paid for by an unaffiliated 3rd party, United States only), what are the amounts for the following categories according to this company's primary objective for the R&D?

2007

50 United States
and D.C.

Estimates are acceptable

A. Development of new or significantly improved products, services, or processes (Enter 0 if none).....

\$

B. Applied research to solve scientific/technical problems directly related to current or planned products, services, or processes (Enter 0 if none).....

\$

C. Directed basic research to acquire knowledge directly related to current or planned products, services, or processes without a specific scientific/technical problem (Enter 0 if none).....

\$

E. Pure basic research to increase the company's base of knowledge with no expectation of producing marketable scientific/technical findings (Enter 0 if none).....

\$

Should equal amount
reported in
question 3, column 1

F. TOTAL of lines 25A through 25D.....

\$

\$

2007

50 United States
and D.C.

Estimates are acceptable

26. What was the cost of clinical trials (phases 1 through 3) included in question 3, column 1 (United States only)?
(Enter 0 if none).....

\$

27. What was the cost of production and testing of prototypes included in question 3, column 1 (United States only)?
(Enter 0 if none).....

\$

28. Of the amount reported in question 3, column 1 (R&D funded or paid for by an unaffiliated 3rd party, United States only), what are the amounts for the following categories according to the primary application of the R&D?

2007

50 United States
and D.C.

Estimates are acceptable

A.	Agricultural production and technology (Enter 0 if none).....	\$
B.	Business/office productivity (Enter 0 if none).....	\$
C.	Commerce/finance (Enter 0 if none).....	\$
D.	Defense (including military applications and general security related R&D) (Enter 0 if none)	\$
E.	Exploration and use of non-agricultural natural resources (Enter 0 if none)	\$
F.	Exploration and use of space (Enter 0 if none).....	\$
G.	Household goods and home entertainment (Enter 0 if none).....	\$
H.	Industrial production and technology (Enter 0 if none).....	\$
I.	Non-oriented R&D (no specific application) (Enter 0 if none).....	\$
J.	Pollution abatement (Enter 0 if none).....	\$
K.	Production, distribution and use of energy. Include R&D to improve energy efficiency. Exclude R&D related to prospecting (Enter 0 if none)....	\$
L.	Protection and improvement of human health (Enter 0 if none).....	\$
M.	Transportation (Enter 0 if none).....	\$
N.	Other (please specify) <input type="text"/>	\$
O.	TOTAL of lines 28A through 28N.....	\$

Should equal amount
reported in
question 3, column 1

R&D Projects funded or paid for by unaffiliated 3rd parties

2007
Number of Projects
Worldwide (including U.S.)

29. As of January 1, 2007, how many R&D projects that were funded or paid for by unaffiliated 3rd parties were active worldwide? (Enter 0 if none).....

30. How many R&D projects that were funded or paid for by unaffiliated 3rd parties were started in 2007 worldwide? (Enter 0 if none).....

Cost for Single Largest Project
Worldwide
(including U.S.)

31. In 2007, what were the costs associated with the single largest R&D project funded or paid for by unaffiliated 3rd parties worldwide? (Enter 0 if none).....

R&D FUNDED OR PAID FOR BY THE FEDERAL GOVERNMENT

32A Was the amount reported in question 4, column 1 (United States only) greater than zero?

- Yes – Complete questions 32b and 33.
- No – Skip to question 34.

32B Of the amount reported in question 4, column 1 (R&D funded or paid for by the federal government, United States only), what are the amounts for the following categories according to this company’s primary objective for the R&D?

2007

*50 United States
and D.C.*

Estimates are acceptable

- A. Development of new or significantly improved products, services, or processes *(Enter 0 if none)*.....
- B. Applied research to solve scientific/technical problems directly related to current or planned products, services, or processes *(Enter 0 if none)*.....
- C. Directed basic research to acquire knowledge directly related to current or planned products, services, or processes without a specific scientific/technical problem *(Enter 0 if none)*.....
- D. Pure basic research to increase the company’s base of knowledge with no expectation of producing marketable scientific/technical findings *(Enter 0 if none)*.....

\$
\$
\$
\$

*Should equal amount
reported in
question 4, column 1*

E. TOTAL of lines 32A through 32D.....

\$

2007

*50 United States
and D.C.*

Estimates are acceptable

33. What was the cost of production and testing of prototypes included in question 4, column 1 (United States only)?
(Enter 0 if none).....

\$

LOCATION of R&D

34A. Does this company have R&D laboratories/locations located in the U.S.?

- Yes – Complete 34B through 34D.
- No – Skip to question 35.

B. What is the name and address of the largest R&D laboratory in the U.S. for this company?

Name:

Number
and
Street:

City:

State:

Zip:

Country:

C. Of this company's total R&D expense (Question 1, column 2 – worldwide), what percent is performed at this location? *(Enter 0 if none)*.....

	%

D. Of the R&D performed by this company but funded by others (Question 3, column 2 – worldwide), what percent is performed at this location? *(Enter 0 if none)*.....

	%

35. In which countries outside the United States did this company perform R&D in 2007?

- | | | | |
|------------------------------------|------------------------------------|--------------------------------------|--|
| <input type="checkbox"/> Australia | <input type="checkbox"/> France | <input type="checkbox"/> Japan | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> Germany | <input type="checkbox"/> Mexico | <input type="checkbox"/> Other – <i>Please Specify</i> |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Hong Kong | <input type="checkbox"/> Netherlands | |
| <input type="checkbox"/> China | <input type="checkbox"/> Italy | <input type="checkbox"/> Switzerland | |

Number of New R&D
Locations
Worldwide
(including U.S.)

36. How many new R&D locations worldwide does this company plan to establish in 2007? (Enter 0 if none).....

- New locations are those where this company has not performed R&D prior to 2007

37. In which countries, including the United States, will these new R&D locations be established?

- | | | | |
|------------------------------------|------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> Australia | <input type="checkbox"/> France | <input type="checkbox"/> Japan | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Brazil | <input type="checkbox"/> Germany | <input type="checkbox"/> Mexico | <input type="checkbox"/> United States |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Hong Kong | <input type="checkbox"/> Netherlands | <input type="checkbox"/> Other – Please Specify |
| <input type="checkbox"/> China | <input type="checkbox"/> Italy | <input type="checkbox"/> Switzerland | |

PLANNING AND MANAGEMENT OF R&D

38A. Does this company estimate the financial return on the R&D that it funds?

Yes – Complete questions 38B and 38C.

No – Skip to question 39.

Worldwide
(including U.S.)

B. If yes, estimate the rate of return on this company's total R&D expenditures worldwide over the past three years.

%

C. What expected rate of return is considered the minimum to initiate an R&D project or program at this company?

%

39. Are any of the following activities grouped with R&D for operating or management purposes at this company?

	Yes	No
A. Improvements to existing products and/or services.....	<input type="checkbox"/>	<input type="checkbox"/>
B. Improvements to productivity of plants, equipment, and/or processes.....	<input type="checkbox"/>	<input type="checkbox"/>
C. Systems integration and/or installation.....	<input type="checkbox"/>	<input type="checkbox"/>
D. Customer service and/or support.....	<input type="checkbox"/>	<input type="checkbox"/>
E. Routine product testing and quality control.....	<input type="checkbox"/>	<input type="checkbox"/>
F. Post-production (phase 4) clinical trials.....	<input type="checkbox"/>	<input type="checkbox"/>
G. Legal work associated with intellectual property.....	<input type="checkbox"/>	<input type="checkbox"/>
H. Marketing of new and/or improved products and/or services.....	<input type="checkbox"/>	<input type="checkbox"/>
I. Other (<i>please specify</i>)		
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

40. If yes to any in question 39, what was the total cost of these activities in 2007?.....

\$	\$
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Exclude:

- Costs for R&D reported in questions 1 through 3.
- Costs for fixed assets such as laboratory equipment.

R&D PARTNERSHIPS, AND RELATIONS WITH ACADEMIA

41. Does this company participate in R&D partnerships with other companies or organizations?

Yes – Go to questions 42 and 43.

No – Go to next section.

42. If yes to question 41, what amount of this company’s R&D expense (question 1) is devoted to partnerships with the following types of organizations?

2007

50 United States
and D.C.

Worldwide
(Includes U.S.)

Estimates are acceptable

- A. For profit companies.....
- B. Government agencies.....
- C. Universities or colleges.....
- D. Other nonprofit organizations.....
- E. Other (please specify)

.....

\$	\$
\$	\$
\$	\$
\$	\$
\$	\$

43. Indicate whether this company performed the following activities with universities, students, or academic faculty in 2007.

	Yes	No
A. Hired academic consultants for short-term projects in science and engineering.....	<input type="checkbox"/>	<input type="checkbox"/>
B. Hosted student interns pursuing undergraduate or graduate degrees in science or engineering for at least one month.....	<input type="checkbox"/>	<input type="checkbox"/>
C. Hosted post-doctoral fellows in science or engineering for at least one month.....	<input type="checkbox"/>	<input type="checkbox"/>
D. Scientists or engineers from this company served as visiting scientists or engineers at a college or university for at least one month.....	<input type="checkbox"/>	<input type="checkbox"/>