



NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS

**Federal Facilities Research and Development (FFRD) Survey  
Fiscal Year (FY) 2024  
Department of Defense (DOD) Facilities Form**

Please submit your survey data by March 31, 2025.

The FY 2024 FFRD Survey collects information on research and experimental development (R&D) performed at federal facilities. Your data are critical to collecting high-quality information on R&D activity within federal facilities. NSF will use the collected information to produce national estimates of spending on R&D, and will make the facility level data from this survey available to the public through data tables and other resources on our website.

NSF is authorized to collect this information under Sections 1861-1876 of the National Science Foundation Act of 1950, as amended and Section 505 of the America COMPETES Reauthorization Act of 2010.

**To submit your data online:**

<https://www.dod.nsf-ffrd.org>

The web survey is the **recommended method** for submitting the questionnaire. It includes several automated features for your convenience. However, if you are responding for multiple facilities, please use the multi-facility excel spreadsheet. If you are responding for a single facility but are unable to use the web survey, please use the single facility excel spreadsheet and email your completed survey to technical support.

**Technical Support**

[ncses-ffrdsurvey@nsf.gov](mailto:ncses-ffrdsurvey@nsf.gov)

(888) 882-0021

**General Survey Questions**

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**Thank you for your participation.**

# Survey Instructions and Definitions

## What's New in the FY 2024 Survey?

### Specific Changes from FY 2022 survey

- Question 1 is a new question and requests total expenditures for Research, Development, Test, and Evaluation (RDT&E) activities both within your facility by federal personnel or contractors and funding provided to others to conduct RDT&E outside your facility.
- Section 2: R&D Funding to Other Organizations (FY 2022 questions 6-8) was removed from the survey. The total funding provided to other organizations is now requested as part of new question 2.
- Expenditures for Budget Activity 8, Software and Digital Technology Pilot Programs, are now collected along with Budget Activity 7, Operational System Development, to ensure complete coverage of DOD RDT&E data.
- While the FFRD survey is an annual survey, FY 2023 data collection will be skipped. This year's data collection effort asks for FY 2024 data ONLY for ease and to improve the timing of the data collection. Moving forward, there are no plans to skip future fiscal years.

### Instructions

This form is intended to serve as a worksheet for use offline, but can be used to submit your response if completing the web survey is not possible. This form works best in Adobe Acrobat.

- Report expenditures and personnel for your facility's 2024 fiscal year (October 1, 2023 through September 30, 2024).
- The questions in this survey are divided into several sections. Some sections may require assistance from other offices or individuals within your facility or agency or may be best completed by a different individual than yourself.
- If exact information is unknown, estimates are acceptable. *We encourage you to have each section completed by the staff member with access to the most complete data.*
- Please share relevant information about your responses in the comment boxes below each question, such as:
  - How you calculated your response.
  - Any assumptions you made coming up with your response.
  - Which offices were involved in preparing the response.
  - If applicable, an explanation for why you cannot answer a particular question.

## Definitions and Questions About Key Terms

### What is a Research & Development (R&D) facility?

For this survey, a **facility** is a unit in your agency that is responsible for performing R&D, generally with its own distinct budget and leadership. This may be a division, branch, center, lab, or other entity. The staff who work within the facility, and the facility itself, may be located in more than one physical location.

**What is research and development (R&D)?** [Source: Office of Management and Budget (OMB) Circular A11; Frascati Manual, 2015]

R&D comprises creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of people, culture, and society—and to devise new applications using available knowledge.

R&D has five major features:

- **Novel:** Advances current knowledge or creates new knowledge
- **Creative:** Focuses on original concepts and hypotheses
- **Uncertain:** Outcomes are not completely determined at the outset of a project
- **Systematic:** Projects are planned and budgeted
- **Transferable/Reproducible:** Methodology and results are transferable to or reproducible in other situations and locations

R&D also has three major types:

- **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed toward a specific application or requirement, such as the optimization of the genome of a specific crop species.
- **Applied research** is original investigation undertaken to acquire new knowledge. It is directed primarily toward a specific, practical aim or objective.
- **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes, or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.

*For DOD facilities, experimental development includes:*

- Advanced technology development (ATD) (budget activity 3)
- Major systems development (budget activities 4–6), consisting of:
  - Advanced component development and prototypes (ACD&P) (budget activity 4)
  - System development and demonstration (SDD) (budget activity 5)
  - Research, development, testing, and evaluation (RDT&E) management support (budget activity 6)

### What are research, development, testing, and evaluation (RDT&E) activities?

**RDT&E** consists of all the activities described above for R&D conduct plus:

Operational system development (budget activity 7)—pre-production development of non-experimental work on a product or system before it goes into full production, including activities such as tooling and development of production facilities.

Software and digital technology pilot programs (budget activity 8)—software, electronic tools, systems, applications, resources, acquisition of services, business process re-engineering activities, functional requirements development, technical evaluations, and other activities in direct support of acquiring, developing, deploying, sustaining, enhancing, and modernizing Software Digital Technology Pilot Programs.

For DOD facilities, definitions are established by Department of Defense Instruction 5000.02 “Operation of the Defense Acquisition System.” For more information, see RDT&E Budget Activities 1 through 8 in the DOD Financial Management Regulation (FMR), Volume 2B, Chapter 5, at: [https://comptroller.defense.gov/portals/45/documents/fmr/current/02b/02b\\_05.pdf](https://comptroller.defense.gov/portals/45/documents/fmr/current/02b/02b_05.pdf).

## QUESTIONNAIRE SECTION 1—Total RDT&E/R&D Expenditures

### What should I include in my answer for question 1?

Question 1 requests a total for all RDT&E activities (budget activities 1-8), the remainder of the questionnaire focuses only on R&D activities (budget activities 1–6).

Please report your facility's FY 2024 **expenditures** for RDT&E, meaning the money that was spent in FY 2024 for RDT&E projects **both within and outside your facility**. These costs are sometimes also referred to as outlays.

Note the survey is not collecting appropriation or obligation totals, only final FY expenditures/outlays for RDT&E performed within and outside the facility.

#### *Include:*

- Labor costs for RDT&E projects
- Non-capital purchases of materials, supplies, equipment, and services to support RDT&E performance
- General administration costs in support of RDT&E activities
- Expenditures for funding provided to others to conduct RDT&E outside your facility

### What should I include in my answers for question 2?

Please report your facility's FY 2024 **expenditures** for R&D only (budget activities 1-6) both within **and** outside your facility.

## QUESTIONNAIRE SECTION 2—Expenditures for R&D Performed Within Your Facility

### What should I include in my answers for questions 3–8?

Please report your facility's FY 2024 **expenditures** for R&D (budget activities 1-6) performed within your facility only.

## QUESTIONNAIRE SECTION 3—R&D Personnel

### What should I include in my answers for questions 9 and 10?

Please include all employees who work on R&D or provide direct support to R&D, such as researchers, R&D managers, technicians, support staff, and others assigned to R&D groups or projects. Personnel may include federal employees, military personnel (civilian and enlisted), contractors, consultants, or volunteers.

#### *Include:*

- All R&D personnel, whether full-time or part-time, temporary or permanent. Employees may perform scientific and technical work for an R&D project (e.g., designing experiments, building prototypes), plan and manage R&D projects, or provide *direct* support for administration of the financial and personnel aspects of R&D.

#### *Do not include:*

- Employees who provide general support services to the facility, such as services provided by personnel in central finance, computing, printing, maintenance, security, or similar departments in your agency that provide services to both R&D and non-R&D projects.

## Contact Information

Please provide the contact information for the person responsible for the survey and an alternate contact.

### Primary Contact Information

First name, last name:

Job title:

Email address:

Phone number:

ext.

### Alternate Contact Information

First name, last name:

Job title:

Email address:

Phone number:

ext.

### Other Contact Information

List individuals who should be copied on all emails about the survey or can create a login account.

- Check "All email" if this person should be copied on all emails.
- Check "Can log in" if this person can create a login account. Leave this check box blank if you are **not** using the Web survey.

First name, last name:

Job title:

Email address:

Phone number:

ext.

All email  Can log in

First name, last name:

Job title:

Email address:

Phone number:  ext.

All email  Can log in

First name, last name:

Job title:

Email address:

Phone number:  ext.

All email  Can log in

## Facility Information

What is the name and address of the facility being reported?

Facility Name:

Address:

City, State, ZIP:

NOTE: If you are reporting for more than one location on this survey, please list all additional states where the R&D is also being conducted in the space below.

State(s):

## Expenditure Acknowledgment

The focus of this survey is to collect expenditures or outlays and not obligations or appropriations. Please confirm below that you are reporting expenditures.

Are you able to report FY 2024 expenditures or outlays for questions 1-8?

Yes  No

└─▶ Thank you for letting us know. We will consider the data you report in questions 1-8 as estimates for your facility's expenditures/outlays.

# Section 1: Total RDT&E/R&D Expenditures

1. What were your facility's total FY 2024 expenditures for RDT&E, by budget activity?

*Include:*

- All of your facility's RDT&E expenditures, regardless of whether the funding was from direct appropriations, interagency agreements, reimbursable funds, or non-federal sources. Expenditures are often referred to as outlays.
- Expenditures for RDT&E performed by your facility's employees.
- Expenditures for RDT&E performed within **and** outside your facility by contractors or other entities.

*Remember:*

- For this survey, we are interested in expenditures, not obligations or appropriations.

	R&D Expenditures (Dollars)
a. R&D ( <i>budget activities 1-6</i> )	\$ <input type="text"/> .00
b. Operational system development and software and digital technology pilot programs ( <i>budget activities 7-8</i> )	\$ <input type="text"/> .00
c. Total RDT&E	\$ <input type="text"/> .00

**Please provide any comments or additional information below.** (*Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.*)

If applicable, please explain why you cannot answer this question.

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2. What were your facility's total FY 2024 expenditures for R&D (question 1 row a) by the following types of costs?

Do **not include expenditures for** operational system development and software and digital technology pilot programs (budget activities 7–8).

**R&D Expenditures (Dollars)**

**a. R&D expenditures for onsite contractors**

Include expenditures for contract personnel hired to work on R&D within your facility in coordination with federal or military personnel. Report contract work conducted outside the facility in row d.

\$  .00

**b. All other costs for R&D performed within your facility**

Include expenditures for R&D projects performed within your facility including labor costs for federal employees, military personnel, trainees, or fellows; non-capital purchases of materials, supplies, equipment, and services to support R&D performance; and general administration costs in support of R&D activities.

\$  .00

**c. Total R&D expenditures within your facility (rows a+b)**

\$  .00

**d. R&D expenditures for work performed outside your facility**

Include funds paid by your facility for R&D activities performed by others **outside** the facility (i.e. funding such as contracts, grants or inter-agency agreements provided to external recipients)

\$  .00

**e. Total R&D expenditures** (should match total entered in question 1, row a)

\$  .00

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

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## Section 2: Expenditures for R&D Performed Within Your Facility

3. Which of the following is included in the total R&D expenditures within your facility (question 2, row c)? Select all that apply.

Salaries and fringe benefits of federal R&D personnel, trainees and fellows

Salaries and fringe benefits of onsite contractors working on R&D

*Check here if your facility does not have onsite contractors*

Salaries and fringe benefits of military R&D personnel

*Check here if your facility does not have military personnel*

Indirect costs associated with R&D activities

Costs for equipment, materials, and supplies necessary for the R&D activities

Other, please specify:

**Please provide any comments or additional information below.** *(Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)*

If applicable, please explain why you cannot answer this question.

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4. What were your facility's total FY 2024 expenditures for R&D (question 2, row c) by type of work?

- R&D type examples can be found below.
- Report expenditures funded by any agency of the United States government under the **Federal** column. Include federal funds passed through from another organization.
- Report expenditures funded by state or local governments, businesses, higher education, nonprofit organizations, or foreign sources under the **Nonfederal** column.
- If possible, the type of R&D should be coded at the individual project level by the researcher or project director. Please communicate with other colleagues to gather necessary information.

**R&D expenditures (Dollars)**

Type of R&D	(1) Federal	(2) Nonfederal	(3) Total
<p><b>a. Basic research (including budget activity 1)</b> Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed toward a specific application or requirement, such as the optimization of the genome of a specific crop species.</p>	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
<p><b>b. Applied research (including budget activity 2)</b> Original investigation undertaken to acquire new knowledge. It is directed primarily toward a specific, practical aim or objective.</p>	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
<p><b>c. Experimental development (including budget activities 3-6)</b> Systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes, or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.</p> <p>For DOD agencies, experimental development includes: advanced technology development (ATD) (budget activity 3), advanced component development and prototypes (ACD&amp;P) (budget activity 4), system development and demonstration (SDD) (budget activity 5), and research, development, testing, and evaluation (RDT&amp;E) management support (budget activity 6).</p>	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
<b>d. Total R&amp;D</b>	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

### R&D Type Examples

Basic research	Applied research	Experimental development
A researcher is studying the properties of human blood to determine what affects coagulation.	A researcher is conducting research on how a new chicken pox vaccine affects blood coagulation.	A researcher is conducting clinical trials to test a newly developed chicken pox vaccine for young children.
A researcher is studying the properties of molecules under various heat and cold conditions.	A researcher is investigating the properties of particular substances under various heat and cold conditions with the objective of finding longer-lasting components for highway pavement.	A researcher is working with state transportation officials to conduct tests of a newly developed highway pavement under various types of heat and cold conditions.
A researcher is investigating the effect of different types of manipulatives on the way first graders learn mathematical strategy by changing manipulatives and then measuring what students have learned through standardized instruments.	A researcher is studying the implementation of a specific math curriculum to determine what teachers needed to know to implement the curriculum successfully.	A researcher is developing and testing software and support tools, based on fieldwork, to improve mathematics cognition for student special education.

5. Of the FY 2024 R&D expenditures you reported in Question 2, row c, how much came from the following sources?
- Do **not** include operational system development and software and digital technology pilot programs (budget activities 7–8).
  - Report the **original source** of funds, when possible. For example, if you received federal funds from another organization, report that amount under “U.S. federal government.”

Source of funds	R&D expenditures (Dollars)
<b>a. U.S. federal government</b> Any agency of the United States government. Include federal funds passed through from another organization.	\$ <input type="text"/> .00
<b>b. State and local government</b> State, county, municipality, or other local government entity in the United States. Do not include state and local universities and colleges or agricultural experiment stations; report these in row e.	\$ <input type="text"/> .00
<b>c. Businesses</b> Domestic or foreign for-profit businesses or industrial firms. Report funds from a company’s nonprofit foundation in row d.	\$ <input type="text"/> .00
<b>d. Nonprofit organizations</b> Domestic or foreign nonprofit foundations and organizations, except universities and colleges. Funds from universities and colleges should be reported in row e.	\$ <input type="text"/> .00
<b>e. All other organizations</b> Other sources not reported above, such as funds from foreign governments, and foreign or U.S. universities.	\$ <input type="text"/> .00
<b>f. Total (should match total from Question 2, row c)</b>	\$ <input type="text"/> .00

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

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**If you reported any federally funded expenditures (Question 5, row a), please respond to Question 6. Otherwise please go to Question 7 (page 14).**

6. Of the federally funded FY 2024 R&D expenditures you reported in Question 5, which agencies funded this R&D and how much of the reported amount was from each agency?

- Do **not** include operational system development and software and digital technology pilot programs (budget activities 7–8).
- Report the agency that was the original source of funds, when possible.
- Use rows l–n to list up to 3 other agencies that funded the largest R&D expenditures. Use row o to report any remaining amount.
- A list of federal departments, agencies, and subagencies is included as a link on the web survey question.

Funding agency	R&D expenditures (Dollars)
a. Department of Agriculture	\$ <input type="text"/> .00
b. Department of Commerce	\$ <input type="text"/> .00
c. Department of Defense	\$ <input type="text"/> .00
d. Department of Energy	\$ <input type="text"/> .00
e. Department of Health and Human Services (including the National Institutes of Health)	\$ <input type="text"/> .00
f. Department of Homeland Security	\$ <input type="text"/> .00
g. Department of the Interior	\$ <input type="text"/> .00
h. Department of Transportation	\$ <input type="text"/> .00
i. Department of Veterans Affairs	\$ <input type="text"/> .00
j. Environmental Protection Agency	\$ <input type="text"/> .00
k. National Aeronautics and Space Administration	\$ <input type="text"/> .00
l. <input type="text"/>	\$ <input type="text"/> .00
m. <input type="text"/>	\$ <input type="text"/> .00
n. <input type="text"/>	\$ <input type="text"/> .00
o. Other federal agencies	\$ <input type="text"/> .00
p. Total (should match total from Question 5, row a)	\$ <input type="text"/> .00

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

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7. Were any of your facility's FY 2024 R&D projects funded through public-private partnerships?

- Public-private partnerships are those in which the government and private companies share R&D costs.

Yes

No

8. Of the total FY 2024 R&D expenditures within your facility you reported in Question 2, row c, what were your expenditures in each field below?

- Examples of the fields and disciplines can be found in the supplemental list at the end of the survey.
- Do **not** include operational system development and software and digital technology pilot programs (budget activities 7–8).

R&D fields	R&D expenditures (Dollars)
<b>a. Agricultural sciences and natural resources and conservation:</b> e.g., agricultural sciences; animal sciences; applied horticulture; fishing and fisheries science; food science and technology; forestry; natural resources and conservation; plant sciences; soil sciences; or veterinary sciences	\$ <input type="text"/> .00
<b>b. Biological, biomedical, and health sciences:</b> e.g., biochemistry, biophysics, molecular biology; biotechnology; botany; cell biology; epidemiology; genetics; medicine; neuroscience; public health; or zoology	\$ <input type="text"/> .00
<b>c. Computer and information sciences</b>	\$ <input type="text"/> .00
<b>d. Geosciences, atmospheric sciences, and ocean sciences:</b> e.g., atmospheric sciences and meteorology; geological and earth sciences; or ocean and marine sciences	\$ <input type="text"/> .00
<b>e. Mathematics and statistics</b>	\$ <input type="text"/> .00
<b>f. Physical sciences:</b> e.g., astronomy and astrophysics; chemistry; materials science; or physics	\$ <input type="text"/> .00
<b>g. Psychology</b>	\$ <input type="text"/> .00
<b>h. Social sciences:</b> e.g., anthropology; archaeology; criminology; economics; geography; linguistics; political science and government; public policy analysis; or sociology, demography, and population studies	\$ <input type="text"/> .00
<b>i. Engineering:</b> e.g., aerospace, aeronautical, and astronautical engineering; bioengineering and biomedical engineering; chemical and petroleum engineering; civil and environmental engineering; electrical and computer engineering; industrial and systems engineering; mechanical engineering; or materials and geological engineering	\$ <input type="text"/> .00
<b>j. Other fields:</b> e.g., business, management, marketing and related; city, urban, community, and regional planning; communication and communications technologies; education research; humanities; law; public administration and social work; or visual and performing arts	\$ <input type="text"/> .00
<b>k. Total (should match total from Question 2, row c)</b>	\$ <input type="text"/> .00

**Please provide any comments or additional information below.** *(Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)*

If applicable, please explain why you cannot answer this question.

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## Section 3: R&D Personnel

Questions in this section ask about personnel who work on R&D. You may have to reach out to your HR department to help get answers.

9. How many of your facility's total R&D personnel (headcount) worked in the job categories listed below in FY 2024?

- Count each person only once. A description of each R&D function can be found below.
- **Do not include:**
  - Personnel who provide general support services to both R&D and non-R&D projects.
  - Personnel working on R&D activities outside your facility.
  - Personnel working only on operational system development and software and digital technology pilot programs (budget activities 7–8).

Job category	Researchers	R&D technicians	R&D support staff	Total
<b>a. Federal employees and military personnel</b> Do not include contractors, consultants, or volunteers.	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>
<b>b. Contractors</b> Personnel hired under a contract to work on R&D within your facility.	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>
<b>c. All other R&amp;D personnel</b> For example, trainees, volunteers, or fellows who are not federal employees or contractors.	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>
<b>d. Total</b>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>	<input style="width: 100px; height: 20px;" type="text"/>

**Check here if you know the number of personnel but are unable to separate them by job category.**  
 If checked, please write in the total personnel in the Total column, Total row (d) box above and leave the other boxes blank.

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.



### Description of R&D Functions

<b>Researchers</b>	<b>R&amp;D technicians</b>	<b>R&amp;D support staff</b>
Professionals engaged in the conception or creation of new knowledge, products, processes, methods, and systems and also in the management of the projects concerned. Include R&D managers in this category.	Persons whose main tasks require technical knowledge and experience in one or more fields of science or engineering, but who contribute to R&D by performing technical tasks such as computer programming, data analysis, ensuring accurate testing, operating lab equipment, and preparing and processing samples under the supervision of researchers.	Not directly involved with the conduct of a research project, but support the researchers and technicians. These employees might include clerical staff, financial and personnel administrators, report writers, patent agents, safety trainers, equipment specialists, and other related employees.

#### Researcher versus R&D technician

Researchers contribute more to the creative aspects of R&D whereas technicians provide technical support. For example, a researcher would design an experiment, and a technician would run the experiment and assist in analyzing results.

10. How many federal full-time equivalents (FTEs) worked in the functions listed below in FY 2024?

- A description of each R&D function can be found above.
- An individual cannot be more than 1.0 FTE. FTE R&D personnel are calculated as the total working effort spent on R&D during a specific period divided by the total effort representing a full-time schedule within the same period.

*Include:*

- Federal employees and military personnel only (all personnel counted in Question 9, row a).

*Do not include:*

- Personnel working only on operational system development and software and digital technology pilot programs (budget activities 7–8).

*Example:*

The following examples of FTE calculations assume a 40-hour work week and 12-month year (52 weeks). However, you should use the hours per week and weeks per year that typically represent a full-time employee at your facility.

- 2 R&D support staff who each work on R&D full-time for 32 weeks:  $2 * (32/52) = 1.2$  FTE
- 1 researcher who works on R&D 50% of the time for 52 weeks:  $(50% * 52) / 52 = 0.5$  FTE

R&D function	FTEs (round to 1 decimal place)
a. Researchers	<input type="text"/>
b. R&D technicians	<input type="text"/>
c. R&D support staff	<input type="text"/>
d. Total	<input type="text"/>

**Check here if you know the number of FTEs but are unable to separate them by R&D function.**

*If checked, please write in the total FTEs in the Total box above and leave the other boxes blank.*

**Please provide any comments or additional information below.** (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

  
  
  

**Thank you for your participation!**

## Supplemental List of R&D Fields and Example Disciplines

### A. Agricultural sciences and natural resources and conservation

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#### 1. Agricultural, animal, plant, veterinary science and related fields

Agricultural business and management  
Agricultural chemistry  
Agricultural engineering—report in Engineering  
Agricultural production operations  
Animal sciences  
Applied horticulture and horticultural business services  
Aquaculture  
Food science and technology  
International agriculture  
Plant sciences  
Soil sciences  
Veterinary biomedical and clinical sciences  
Veterinary medicine  
Wood science

#### 2. Natural resources and conservation

Fishing and fisheries sciences and management  
Forestry  
Natural resources conservation and research  
Natural resources economics  
Natural resources management and policy  
Renewable natural resources  
Wildlife and wildlands science and management

### B. Biological, biomedical, and health sciences

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#### 1. Biological and biomedical sciences

Allergies and immunology  
Biochemistry, biophysics, and molecular biology  
Biogeography  
Biology and biomedical sciences, general  
Biomathematics, bioinformatics, and computational biology  
Biotechnology  
Botany and plant biology  
Cell, cellular biology, and anatomical sciences  
Epidemiology, ecology and population biology  
Genetics  
Microbiological sciences and immunology  
Molecular medicine  
Neurobiology and neuroscience  
Pharmacology and toxicology  
Physiology, pathology and related sciences  
Zoology, animal biology

#### 2. Health sciences

Advanced, graduate dentistry and oral sciences  
Allied health and medical assisting services  
Bioethics, medical ethics  
Clinical medicine research  
Clinical/medical laboratory science/research and allied professions  
Communication disorders sciences and services

Dentistry  
Dietetics and clinical nutrition services  
Health and medical administrative services  
Health, medical preparatory programs  
Gerontology, health sciences  
Kinesiology and exercise science  
Medical clinical science, graduate medical studies  
Medical illustration and informatics  
Medicine  
Mental health  
Nursing  
Optometry  
Osteopathic medicine, osteopathy  
Pharmacy, pharmaceutical sciences, and administration  
Podiatric medicine, podiatry  
Public health  
Radiological science  
Registered nursing, nursing administration, nursing research and clinical nursing  
Rehabilitation and therapeutic professions  
Zoology medicine

### C. Computer and information sciences

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Artificial intelligence  
Computer and information technology administration and management  
Computer science  
Computer software and media applications  
Computer systems analysis  
Computer systems networking and telecommunications  
Information sciences, studies  
Information technology

### D. Geosciences, atmospheric sciences, and ocean sciences

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#### 1. Atmospheric science and meteorology

Aeronomy  
Atmospheric chemistry and climatology  
Atmospheric physics and dynamics  
Extraterrestrial atmospheres  
Meteorology  
Solar  
Weather modification

#### 2. Geological and earth sciences

Earth and planetary sciences  
Geochemistry  
Geodesy and gravity  
Geology  
Geomagnetism  
Geophysics and seismology  
Hydrology and water resources  
Minerology and petrology  
Paleomagnetism  
Paleontology  
Physical geography  
Stratigraphy and sedimentation  
Surveying technology, surveying

#### 3. Ocean sciences and marine sciences

Biological oceanography

Geological oceanography  
Marine biology  
Marine oceanography  
Marine sciences  
Oceanography, chemical and physical

### E. Mathematics and statistics

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Applied mathematics  
Mathematics  
Statistics

### F. Physical sciences

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#### 1. Astronomy and astrophysics

Astronomy  
Astrophysics  
Planetary astronomy and science

#### 2. Chemistry (except Biochemistry—report in Biological and Biomedical Sciences)

Analytical chemistry  
Chemical physics  
Environmental chemistry  
Forensic chemistry  
Inorganic chemistry  
Organic chemistry  
Organo-metallic chemistry  
Physical chemistry  
Polymer chemistry  
Theoretical chemistry

#### 3. Materials science

Materials chemistry  
Materials science

#### 4. Physics

Acoustics  
Atomic, molecular physics  
Condensed matter and materials physics  
Elementary particle physics  
Nuclear physics  
Optics, optical sciences  
Plasma, high-temperature physics

#### 5. Theoretical and mathematical physics

Data processing and data processing technology  
Mathematical physics  
Theoretical physics

### G. Psychology

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Animal behavior and ethology  
Clinical psychology  
Comparative psychology  
Counseling psychology  
Educational psychology  
Experimental psychology  
Human development and personality  
Industrial and organization psychology  
Personality psychology  
Social psychology

### H. Social sciences

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#### 1. Anthropology

Cultural anthropology

Medical anthropology  
Physical and biological anthropology

## **2. Economics**

Agricultural economics  
Applied economics  
Business development  
Development economics and international development  
Econometrics and quantitative economics  
Industrial economics  
International economics  
Labor economics  
Managerial economics  
Public finance

## **3. Political science and government**

Comparative government  
Legal systems  
Political economy  
Political science and government  
Political theory

## **4. Sociology, demography, and population studies**

Comparative and historical sociology  
Complex organizations  
Cultural and social structure  
Demography and population studies  
Group interactions  
Rural sociology  
Social problems and welfare theory  
Sociology

## **5. Other social sciences**

Archaeology  
Area, ethnic, cultural, gender, and group studies  
Cartography  
Criminal science  
Criminology  
Geography  
Gerontology, social sciences  
International relations and national security studies  
Linguistics  
Public policy analysis  
Regional studies  
Urban studies, affairs

## **I. Engineering**

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### **1. Aerospace, aeronautical, and astronautical engineering**

Aerodynamics  
Aerospace engineering  
Space technology

### **2. Bioengineering and biomedical engineering**

Biological and biosystems engineering  
Biomaterials engineering  
Biomedical technology  
Medical engineering

### **3. Chemical and petroleum engineering**

Biochemical engineering  
Chemical and biomolecular engineering  
Engineering chemistry  
Paper science  
Petroleum engineering  
Polymer, plastics engineering

### **4. Civil and environmental engineering**

Architectural engineering  
Construction engineering  
Environmental, environmental health engineering  
Geotechnical and geoenvironmental engineering  
Sanitary engineering  
Structural engineering  
Surveying engineering  
Transportation and highway engineering  
Water resources engineering

### **5. Electrical and computer engineering**

Communications engineering  
Computer engineering  
Computer hardware engineering  
Computer software engineering  
Electrical and electronics engineering  
Laser and optical engineering  
Telecommunications engineering

### **6. Industrial and systems engineering**

Industrial engineering  
Manufacturing engineering  
Operations research  
Systems engineering

### **7. Mechanical engineering**

Electromechanical engineering  
Mechatronics, robotics, and automation engineering

### **8. Materials and geological engineering**

Ceramic sciences and engineering  
Geophysical, geological engineering  
Materials engineering  
Metallurgical engineering  
Mining and mineral engineering  
Textile sciences and engineering  
Welding engineering

### **9. Other engineering**

Agricultural engineering  
Engineering design  
Engineering management, administration  
Engineering mechanics, physics, and science  
Engineering physics  
Engineering science  
Forest engineering  
Nanotechnology  
Naval architecture and marine engineering  
Nuclear engineering  
Ocean engineering  
Power plant engineering

## **J. Other fields**

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### **1. Business, management, marketing, and related**

Business administration  
Business management  
Business, managerial economics  
Management information systems and services  
Marketing management and research

### **2. Communication and communications technologies**

Communication and media studies  
Communications technologies  
Journalism  
Radio, television, and digital communication

### **3. Education research**

Education administration and supervision  
Education research  
Teacher education, specific levels and methods

### **4. Humanities**

English language and literature, letters  
Foreign languages and literatures  
History, including history and philosophy of science and technology  
Humanities, general  
Liberal arts and sciences  
Philosophy and religious studies  
Theology and religious vocations

### **5. Law**

Law  
Legal studies

### **6. Public administration and social services**

Public administration  
Public affairs  
Human services  
Social work

### **7. Visual and performing arts**

Drama, theatre arts and stagecraft  
Film, video, and photographic arts  
Fine and studio arts  
Music

### **8. All other fields**

Architecture  
City, urban, community and regional planning  
Family, consumer sciences and human sciences  
Foods, nutrition, and wellness studies  
Landscape architecture  
Library science  
Parks, sports, recreation, leisure and fitness

Also, use the all other fields category for R&D that involves multiple fields if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields.