

**Department of Commerce
United States Census Bureau
OMB Information Collection Request
Business R&D and Innovation Survey
(Forms BRDI-1, BRDI-1(S), and BRDI-M)
OMB Control Number: 0607-0912**

Supporting Statement Part A. Justification

1. Necessity of the Information Collection

The Census Bureau requests a revision to the currently cleared Business R&D and Innovation Survey (BRDIS) information collection. This revision adds a form type [BRDI-M] to collect data on research and development (R&D) and innovation activities from small businesses with fewer than 10 employees.

In 2004, the National Academy of Sciences' Committee on National Statistics (CNSTAT) reviewed the National Center for Science and Engineering Statistics' (NCSES) portfolio of R&D surveys and recommended that NCSES explore ways to measure firm innovation and investigate the incidence of R&D activities in growing sectors, such as small business enterprises not currently covered by BRDIS. As a result, Census plans to expand BRDIS to include very small businesses or microbusinesses through the use of the BRDI-M questionnaire.

The National Science Foundation Act of 1950 as amended authorizes and directs the National Science Foundation (NSF) through the National Center for Science and Engineering Statistics (NCSES) "...to provide a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a source of information for policy formulation by other agencies of the Federal government." One of the methods used by NCSES to fulfill this mandate is the Business R&D and Innovation Survey (BRDIS)—the primary federal source of information on R&D in the business sector.

BRDIS will continue to collect the following types of information:

- R&D expense based on accounting standards.
- Worldwide R&D of domestic companies.
- Business segment detail.
- R&D related capital expenditures.
- Detailed data about the R&D workforce.
- R&D strategy and data on the potential impact of R&D on the market.
- R&D directed to application areas of particular national interest.
- Data measuring innovation and intellectual property protection activities.

In addition to adding the BRDI-M form, the following changes will be made to the 2016-2017 BRDIS compared to the 2015 BRDIS:

- Add item in type-of-cost questions to collect Royalty and licensing payments.
- Add questions collecting Basic-Applied-Development split of Total R&D paid for by the company and Total R&D paid for by others.
- Delete question on intellectual property protection.
- Add two Yes/No questions to help separately identify intellectual property transfer transactions with U.S. persons and foreign persons.
- Discontinue the pre-survey letter. This letter was planned to collect contact and company status information (merger, acquisition, etc.) from approximately 500 of the largest R&D companies.

The forms used in the BRDIS are:

Form BRDI-M. This form (Attachment A) will be mailed to approximately 200,000 small businesses with less than 10 employees. In addition to general business information - primary business activity (NAICS code), year business was formed, and number of employees - this form would collect data on R&D, innovation, employment, related activities (such as sales of significantly improved goods and services; operating agreements and licensing activities; technology transfer; patents and intellectual property; and sources of technical knowledge), measures of entrepreneurial strategies, and demographic characteristics of the entrepreneur.

Form BRDI-1. This form (Attachment B) will be mailed to approximately 7,000 companies with a history of significant R&D and contains the full complement of BRDIS data items.

Form BRDI-1(S). This form (Attachment C) will be mailed to approximately 38,000 companies and contains only the most high-level BRDIS data items.

Information from BRDIS will continue to support the America COMPETES Reauthorization Act of 2010 as well as other R&D-related initiatives introduced during the clearance period. Other initiatives that have used BRDIS statistics include: the Innovation Measurement-Tracking the State of Innovation in the American Economy (U.S. Department of Commerce); Science of Science and Innovation Policy (NSF); and Rising Above the Gathering Storm (National Research Council).

The survey is conducted under the authority of Title 13, United States Code, Sections 8(b), 131, and 182, and Title 42, United States Code, Sections 1861-76 (National Science Foundation Act of 1950, as amended).

2. Need and Uses

Policy officials from many Federal agencies rely on BRDIS statistics for essential information. For example, the Bureau of Economic Analysis (BEA) now incorporates R&D as fixed investment in the National Income and Product Accounts (NIPAs). Businesses

and trade organizations also rely on BRDIS data to benchmark their industries' performance against others. Each BRDIS data item is intended to address specific data user needs identified by NCSES through research, workshops, and regular interaction with data users.

In previous years, BRDIS statistics were limited to companies with five or more U.S. employees. With the addition of BRDI-M, all companies with U.S. employees will be eligible for inclusion in providing statistics on R&D and innovation regardless of company size. Expanding the coverage of the BRDIS will provide data users a more complete picture of R&D and innovation in the business sector and will allow policy makers and researchers to investigate questions about R&D, innovation, and competitiveness in small businesses.

3. Use of Information Technology

All companies receiving the BRDI-M form will have the option to respond electronically via Centurion (Attachment F), the Census Bureau's internet reporting option. Advantages to using Centurion include: reduced time and expense to report, improved data quality through automatic data checks, the ability to exit the form and resume at a later time without losing the data already entered, and the ability to save an electronic version (pdf) of the completed form for their own use.

Through the Economic Respondent Portal, respondents will have access to frequently asked questions and general information about the survey. They will also have direct access to Centurion, and will have the ability to request time extensions, check their filing status or send a secure email to the Census Bureau.

4. Efforts to Identify Duplication

The data collected through the BRDI-M form are primarily new data not collected elsewhere and not available through administrative data. Some of the questions on R&D and innovation were asked on the Annual Survey of Entrepreneurs. However, the module of R&D and innovation questions is not anticipated to be repeated.

5. Minimizing Burden

The BRDI-M form will have direct impact on small businesses, but the questionnaire intentionally has been kept short and designed to be easy to complete. It should not be necessary for respondents to consult their financial records when answering questions. In addition, the survey will be offered over the web.

As compared with exact figures, many questions on the form request estimated percentages, which are easier to provide. In addition, the questions that ask for dollar amounts ask for the answers rounded to the nearest thousand, which will lessen the need to consult records.

6. Consequences of Less Frequent Collection

This request is to add the BRDI-M form for the 2016 survey year only. Whether or not to undertake future data collections has not yet been determined. A separate request will be submitted for any future BRDI-M collections.

7. Special Circumstances

This information collection will be conducted in a manner consistent with OMB guidelines and there are no special circumstances.

8. Consultations Outside the Agency

In the development of the microbusiness questionnaire NCSES has received extensive outside consultations. In September 2010, NSF conducted a data user workshop with numerous stakeholders to help NSF shape the future content and coverage of data on research and development, innovation and entrepreneurship among microbusinesses. More specifically NSF wanted to gain a better perspective on data user needs, understand how microbusiness data will be used, and obtain advice on priorities and strategies for content to be included in the survey. A questionnaire was not presented in this workshop, but rather topics for discussion that might possibly be included in a questionnaire. For example workshop participants were asked to discuss the following:

- Sources of technical knowledge, sources and ways to acquire technical knowledge
- Methods for keeping company's technical knowledge
- Managing intellectual assets, trademark data
- Patents (How many owned? How many applied for in past / in future? Additional patent protection in foreign countries); Types of patents and patenting activity
- Technology transfer (Received IP from others or transferred to others, open source, licensing)

The above list is not exhaustive but rather an illustration of the many topics discussed during the data workshop.

Following the data user workshop a microbusiness questionnaire was drafted. In February 2012, NCSES convened an expert panel of academics and other stakeholders including those from the federal and state governments and several private foundations to provide input and feedback to NSF on the development of the questionnaire.

This expert panel meeting was very much focused on refining the draft questionnaire. To facilitate discussion at the February 2012 Expert Panel meeting the survey was divided into four concept (as based on the draft questionnaire) areas: R&D and Financial Information, Innovation and Intellectual Property, Company Business Strategies and About the Owner and Overall Company Information. A participant led each concept area

and specific questions and recommendations were discussed throughout the meeting.

Three years later in June of 2015 NSF convened another panel of experts to identify and consider avenues for refining, expanding, and reshaping the national innovation data. The objective with this panel of experts was to assist NSF in better understanding what responses to the questionnaire's innovation questions mean. Findings from this panel have been incorporated into the current BRDIS questionnaires.

On September 6, 2016 the Census Bureau published a notice in the Federal Register (Volume 81, No. 172, pages 61183-61184) inviting the general public and other Federal agencies to comment on plans to submit this request.

We received one comment from an individual generally opposed to any data collection effort by the Federal government.

In a letter dated November 7, 2016, Prof. Andrew Reamer at The George Washington Institute of Public Policy expressed support for the BRDIS data collection as an important source of information for guiding U.S. competitiveness policy. Prof. Reamer also expressed support for the expansion of BRDIS to include microbusinesses. He encouraged the Census Bureau and the National Center for Science and Engineering Statistics to consult with a number of government organizations that may benefit from BRDIS data prior to its next clearance. Prof. Reamer also requested a conference call update on the status of the Census Bureau's efforts to identify current prospective uses of BRDIS data to describe global value chains (GVCs), measure international trade in value-added (TiVA), more accurately measure trade in services (including R&D), and comprehensively classify U.S. business activity by function, including R&D. We thank Prof. Reamer for his statement of support for BRDIS. Prof. Reamer's suggestions will be considered in future meetings between Census and NCSES survey managers.

In another letter dated November 7, 2016, Prof. Josh Lerner at the Harvard Business School asserted that BRDIS has potential to be a valuable data resource for business research. Prof. Lerner provided comments and posed questions related to R&D accounting, small firm sources of financing, the role of strategic alliances, and relationships between R&D, innovation, and intellectual property. Prof. Lerner concluded his letter by inviting Census and NCSES to consult with members of the NBER PIE Program to ensure BRDIS's maximum effectiveness. We thank Prof. Lerner for his thoughtful comments. Prof. Lerner's comments will be discussed in future meetings between Census and NCSES survey managers.

The Census Bureau and NCSES plan to continue to obtain outside advice on the content, design, and conduct of the survey from respondents, data users, academics, government employees as well as other stakeholders.

9. Paying Respondents

No payments or gifts are given to respondents of BRDIS.

10. Assurance of Confidentiality

The information collected in this survey is confidential under Title 13, United States Code, Section 9. Title 13, United States Code, Sections 224 and 225 make reporting mandatory.

BRDI-M respondents are informed of the confidentiality of their response and the mandatory nature of the survey in the cover letter (Attachment D), form (Attachment A), and electronic instrument (Attachment E).

11. Justification for Sensitive Questions

There are no questions on BRDIS that are commonly considered sensitive.

12. Estimate of Hour Burden

The total annual burden estimate we are requesting for this collection is 176,500 hours.

According to the May 2015 Occupational Employment Statistics from the Bureau of Labor Statistics (BLS) website, the average wage rate for a staff level accountant is \$36.19 per hour. The total dollar cost for all respondents annually surveyed will be approximately $(176,500 * 36.19) = \$6,387,535$.

Changes to the BRDI-1 and BRDI-1(S) forms apply to a small number of companies surveyed and should not have a substantive effect on burden.

The pre-survey letter discussed in the currently cleared BRDIS information collection has been discontinued. This change will decrease the total survey burden by 125 hours.

The burden for the BRDI-M form is estimated to be 15 minutes per response. This estimate is based on the nature of the questions asked [mostly Yes/No, check-box questions, and easy-to-obtain information]. The expansion of BRDIS results in an increase of 50,000 hours $(15 \text{ minutes} * 200,000 \text{ companies receiving the BRDI-M})$.

CURRENT OMB INVENTORY [FROM CURRENTLY CLEARED BRDIS INFORMATION COLLECTION]	126,625 Hours
CHANGES TO BRDI-1, BRDI-1(S) FORMS	+0 Hours
DISCONTINUED PRE-SURVEY LETTER	-125 Hours
ADDITION OF BRDI-M FORM [200,000 * .25 HRS.]	+50,000 Hours
NEW TOTAL BURDEN ESTIMATE	176,500 Hours

13. Estimated Cost to Respondents

It is expected that respondents will not incur any cost other than that of their time to respond. The information requested is of the type and scope normally carried in company records and no special hardware or software is necessary to provide answers to this information collection. Therefore, respondents are not expected to incur any capital and startup costs or systems maintenance cost in responding. Further, purchasing of outside information collection services, if performed by the respondent, is part of usual and customary business practices and not specifically required for this information collection.

14. Costs to the Federal Government

We expect the total cost to the Federal Government to be approximately \$10 million per survey year. This cost is expected to be relatively constant for 2016-2017. The U.S. Census Bureau pays 10% of costs and the National Science Foundation pays 90%. The cost includes, but is not limited to, costs associated with data collection, processing, data review, data tabulation, disclosure avoidance, overhead, printing, postage, and support staff.

15. Reason for Change in Burden

The change in burden is due to the addition of approximately 200,000 respondents receiving the BRDI-M form and dropping the pre-survey letter.

16. Project Schedule

Task	Time Frame
2016 BRDI-1(S) Mail-out	Early February-2017
2016 BRDI-M Mail-out	Early March-2017
2016 BRDI-1 Mail-out	Late March-2017
2016 Micro Data Review	Feb - Dec 2017
2016 Macro Data Review	Oct - Dec 2017
2016 Table/Disclosure Review	Jan - Mar 2018
2016 Data Tables Delivered to NSF	Mar - Sep 2018
2017 BRDI-1(S) Mail-out	Early February-2018
2017 BRDI-1 Mail-out	Late March-2018
2017 Micro Data Review	Feb - Dec 2018
2017 Macro Data Review	Oct - Dec 2018
2017 Table/Disclosure Review	Jan - Mar 2019
2017 Data Tables Delivered to NSF	Mar - Jun 2019

17. Request to Not Display the Expiration Date

The expiration date of OMB approval will be displayed on questionnaires.

18. Exceptions to the Certification

The collection of information for BRDIS complies with 5 CFR 1320.9 without exception.