Ecosystem Questionnaire for States and Territories to Inform CHIPS R&D Facility Site Selection Process

OMB Control #0693-XXXX
Expiration Date: XX/XX/XXXX

Introduction

Natcast and the Department of Commerce are launching a site selection process to identify a site for the NSTC Prototyping and NAPMP Advanced Packaging Piloting Facility. Further information about this facility and the site selection process can be found in the Model Fact Sheet and Process Fact Sheet.

This Questionnaire invites your state or territory to participate in the initial phase of the site selection process, the purpose of which is to provide an opportunity to submit information about existing semiconductor ecosystems in your state or territory (regions, metropolitan areas, cities; NOT specific sites).

This information will inform Natcast's and the Department's assessment of which states and territories have existing semiconductor ecosystems to support the facility identified above, and will inform Natcast's and the Department's determination as to which states and territories will be invited to provide detailed information about specific proposed sites for the facility in their state or territory. States and territories must respond to this Ecosystem Questionnaire in order to be considered for the facility. Natcast and the Department anticipate making a significant down-select following this initial phase of the site selection process.

Note: If, after reviewing responses to the site-specific questionnaire and other relevant considerations, Natcast and the Department determine that it is in their interest to consider separate sites for the NSTC Prototyping and NAPMP Advanced Packaging Piloting Facility, Natcast and the Department may request additional information from any state and/or territory that participated in this Ecosystem Questionnaire.

Natcast and the Department of Commerce intend to follow the timeline below:

Process Step / Interaction	Estimated Date
Ecosystem Questionnaire Issued to States/Territories	Mid July
Site-Specific Information Gathered from Down-selected States/Territories	Late August (Tent.)

Instructions for Submission

States and territories: It is important that you provide clear, concise, and comprehensive responses to the Ecosystem Questionnaire.

Subsequent to the receipt of responses to the Ecosystem Questionnaire, Natcast or the Department of Commerce may contact states or territories to obtain clarifying information. Natcast and the Department may also verify information provided in your responses using other sources. By participating in this Ecosystem Questionnaire, you acknowledge and consent to the information submitted being reviewed by Natcast, the Department of Commerce, other key federal officials, or third-party contractors retained by Natcast or the Department of Commerce for that purpose. The Department of Commerce will protect any confidential business information it receives in response to this questionnaire to the extent permitted by federal law, including the Trade Secrets Act (18 U.S.C. 1905) and the Department's Freedom of Information Act (FOIA) implementing regulations, including the regulation for confidential business information at 15 CFR 4.9.

You are encouraged to submit your form as soon as it is completed and not wait until the deadline.

Any questions concerning the information requested within this electronic form should be directed to FacilitiesRFI@natcast.org. Answers to questions of general interest may be released to all respondents in the form of an FAQ.

On behalf of Natcast and the Department of Commerce, thank you for your efforts in responding promptly to this information request.

Recommended Process:

- Answer all questions on the online form - you must answer all required information on a page before moving forward **(required fields are denoted by stars *).**
- If you are awaiting information in order to answer a question, entering "TBD" will allow you to move to the next page. **Be sure to return to the question with a valid input before submitting the form**, as "TBD" will be interpreted as "no response" during the submission evaluation.
- Please enter "N/A" if the question is not applicable to the submission.
- Review and submit your work; you will automatically receive a copy of your submission when finished.

Don't lose your work! You may save your work and return at any time. Your progress is automatically saved as you navigate from page-to-page. However, **unsaved work will "time out" if you leave your computer idle for 15+ minutes.**

Questions/Responses for Submission

1. Natcast is seeking to collaborate with a state or territory partner to advance the semiconductor industry through investment in R&D. Is your state or territory interested in participating in the PPF site selection process? Please refer to this Process Fact Sheet for additional information.
   - Yes, we wish to be considered for the NSTC Prototyping and NAPMP Advanced Packaging Piloting Facility
   - No, we do not wish to be considered for the above CHIPS R&D Facility

Semiconductor Ecosystem

1. How many **companies across the semiconductor value chain** (e.g., materials, capital equipment, design, and assembly/manufacturing) operate in your state/territory? For purposes of this question, your response may include companies that have announced[1] facilities that will operate in your state/territory, and/or facilities that are pending construction; your response should not include existing or pending sales support offices.
   - 0
   - 1-9
   - 10-19
   - 20+

2. Please list the **top 5 semiconductor employers** (by employment in your state or territory) and a high-level description of their activities within your state/territory (e.g., manufacturing/ production, R&D, sales support). For purposes of this question, your response may include entities that have announced plans to operate in your state/territory. Character count max of 2,000 characters.
   1. Employer 1 (Description)
   2. Employer 2 (Description)
   3. Employer 3 (Description)
   4. Employer 4 (Description)
   5. Employer 5 (Description)

3. How many **200mm commercial semiconductor fabs** are in your state/territory? For purposes of this question, your response may include entities that have announced 200mm commercial semiconductor fabs that will operate in your state/territory, and/or 200mm commercial semiconductor fabs that are pending construction.
   - 0
   - 1-2
   - 3-4
   - 5+
   - Please name up to your top 3 200mm fab facilities (by employees) and provide links to their websites.
     1. Employer 1 (Link)
     2. Employer 2 (Link)
     3. Employer 3 (Link)

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[1] The term "announced" used in questions 1-7 refers to new corporate investments that have been made public through verifiable sources such as websites, press releases, articles, or other data sources.

4. How many **300mm commercial semiconductor fabs** are in your state/territory? For purposes of this question, your response may include entities that have announced 300mm commercial semiconductor fabs that will operate in your state/territory, and/or 300mm commercial semiconductor fabs that are pending construction.
   - 0
   - 1-2
   - 3-4
   - 5+
   - Please name up to your top 3 300mm fab facilities (by employees) and provide links to their websites.
     1. Employer 1 (Link)
     2. Employer 2 (Link)
     3. Employer 3 (Link)

5. How many **semiconductor advanced packaging facilities** (e.g., those that assemble multi-chip modules) **capable of handling 300mm wafers** operate in your state/territory? For purposes of this question, your response may include entities that have announced semiconductor advanced packaging facilities that will operate in your state/territory, and/or semiconductor advanced packaging facilities that are pending construction.
   - 0
   - 1-2
   - 3-4
   - 5+
   - Please name up to your top 3 advanced packaging facilities (by employees) and provide links to their websites.
     1. Employer 1 (Link)
     2. Employer 2 (Link)
     3. Employer 3 (Link)

6. How many **semiconductor suppliers** (material suppliers (e.g., chemicals, wafers, fluids, gases, consumables used in the fabrication of wafers/semiconductors), and capital equipment suppliers (e.g., equipment used in the physical manufacturing steps of wafer/semiconductor fabrication)) operate in your state/territory? For purposes of this question, your response may include semiconductor suppliers that have announced production, manufacturing or R&D facilities that will operate in your state/territory, and/or facilities that are pending construction; your response should not include existing or pending sales support offices.
   - 0
   - 1-9
   - 10-24
   - 25+

7. How many **semiconductor design-related companies** (fabless chip designers, design IP companies, Integrated Device Manufacturers (IDMs), Electronic Design Automation (EDA) firms) operate in your state/territory? For purposes of this question, your response may include semiconductor design-related companies that have R&D facilities, and/or corporate offices, and/or production/manufacturing facilities in your state/territory. For purposes of this question,

your response may include semiconductor design-related companies that have announced facilities that will operate in your state/territory, and/or facilities that are pending construction; your response should not include existing or pending sales support offices.

- 0
- 1-9
- 10-19
- 20+

8. Please provide the **employment figures** within the semiconductor NAICS codes: (1) 334413 Semiconductor and Related Device Manufacturing; and (2) 333242 Semiconductor Machinery Manufacturing, in your state/territory. All 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands should use the most recent Quarterly Census of Employment and Wages data provided by the Bureau of Labor Statistics. Those territories which are not included in the QWEC data set are encouraged to provide data sets that follow a similar methodology as the QWEC data series:

- **334413** Semiconductor and Related Device Manufacturing Employment #
- **333242** Semiconductor Machinery Manufacturing Employment #

9. How many **graduates (bachelors, masters, etc.) with engineering degrees focused on microelectronics** (electrical, electronics, mechanical, materials, or chemical engineering, science including chemistry and applied physics, or technology) **matriculate annually** from universities in your state/territory?

- <1,000
- 1,001-2,499
- 2,500-7,499
- >7,500
- Please name up to your top 3 **microelectronics-focused engineering education programs** (by graduates) and provide links to their websites. This could include any of the engineering programs listed above but should have a focus on microelectronics.
    1. Program 1 (Link)
    2. Program 2 (Link)
    3. Program 3 (Link)

10. How many **microelectronics-focused university research centers and/or government research centers (e.g., Federally Funded Research and Development Centers, "FFRDCs")** are in your state/territory?

- 0
- 1-2
- 3-4
- 5+
- Please name up to your top 3 **microelectronics-focused research centers** (by annual funding dollars) and provide links to their websites.
    1. Program 1 (Link)
    2. Program 2 (Link)
    3. Program 3 (Link)

11. How many **R1 universities** offering advanced degree programs and/or conduct significant research **focused on the microelectronics** industry and are engaged in semiconductor R&D?
    - 0
    - 1-2
    - 3-4
    - 5+
    - Please name up to your top 3 programs (by graduates) and provide links to their websites.
        1. Program 1 (Link)
        2. Program 2 (Link)
        3. Program 3 (Link)

12. How many **community colleges/vocational/technical schools** in your state/territory offer certification programs (or similar programs) **centered on the semiconductor industry, including hands-on training with semiconductor facilities and tools?**
    - 0
    - 1-2
    - 3-4
    - 5+
    - Please name up to your top 3 programs (by graduates) and provide links to their websites.
        1. Program 1 (Link)
        2. Program 2 (Link)
        3. Program 3 (Link)

13. How many **workforce training programs** specifically for the semiconductor industry are provided in your state/territory?
    - 0
    - 1-2
    - 3-4
    - 5+
    - If applicable, please name up to your top 3 programs and provide links to their websites.
        1. Training Program 1 (Link)
        2. Training Program 2 (Link)
        3. Training Program 3 (Link)

14. How many **tech hubs or designations** (e.g., EDA Tech Hubs and Build Back Better Regional Challenge Coalitions, NSF Regional Innovation Engines, ME Commons Hubs, other state/local designations) specifically focused on the semiconductor industry are in your state/territory?
    - 0
    - 1-2
    - 3-4
    - 5+
    - If applicable, please name up to your top 3 programs and provide links to their websites.
        1. Program 1 (Link)
        2. Program 2 (Link)
        3. Program 3 (Link)

15. How many state, territory, or local **programs or initiatives aimed at growing the semiconductor industry** (e.g., semiconductor workforce development or a task force on semiconductor skills training) are in your state/territory?
    - 0
    - 1-2
    - 3-4
    - 5+
    - If applicable, please name up to your top 3 programs and provide links to their websites.
        1. Program 1 (Link)
        2. Program 2 (Link)
        3. Program 3 (Link)

16. Please identify **the metro areas/regions in your state/territory you believe are most suitable** for investment in the semiconductor industry and provide a brief rationale for each. Your answer may highlight relevant ecosystem components that border your state or territory. For purposes of this question, your response may include existing or planned investments in ecosystems or ecosystem components. Please note any confidential information and include relevant markings. Character count max of 2,000 characters.
    - Location 1 (Rationale)
    - Location 2 (Rationale)
    - Location 3 (Rationale)
    - Location 4 (Rationale)

17. In the last 10 years, what has been the total investment in your state/territory's semiconductor industry **from commercial sources**?
    - <$500M
    - $500M - <$1B
    - $1B - $10B
    - >$10B

18. In the last 10 years, what has been the total investment in your state/territory's semiconductor industry **from federal government sources**?
    - <$50M
    - $50M - <$100M
    - $100M - $500M
    - >$500M

19. In the last 10 years, what has been the total investment in your state/territory's semiconductor industry **from state/territory government sources**?
    - <10M
    - $10M - <$50M
    - $50M - $100M
    - >$100M

20. Are there any current or proposed **financial or in-kind state/territory incentives/programs** related to the semiconductor industry for which this facility might be eligible?
    - Yes
    - No

- If yes, please name the program and provide a link to verify
    1. Program 1 (Link)
    2. Program 2 (Link)
    3. Program 3 (Link)

21. What **kinds of incentives** does your state/territory provide to encourage semiconductor R&D? Check all that apply.
    - Tax Incentives (e.g., Property Tax Abatement, Tax Increment Financing, Tax Credits)
    - Grants
    - Infrastructure Assistance
    - Training and Human Resources Assistance
    - Other _____