

MEMORANDUM OF UNDERSTANDING

in support of the CHIPS Metrology Community

Between:

The CHIPS Metrology Program of the National Institute of Standards and Technology (NIST) United States Department of Commerce (DOC); and _____
(Name of Entity/Member)

Purpose

The purpose of this Memorandum of Understanding (“MOU” or “Agreement”) is to establish a collaboration in support of the CHIPS Metrology Community (“Community”) and to describe the rights and responsibilities of Member of the Community (“Member”) regarding the activities described below. The Agreement encompasses this document, all Attachments and applicable laws and regulations. Member enters into this Agreement with the understanding that each Member of the Community will sign the same Agreement and will be subject to the same terms and conditions. This Agreement is a statement of intent of the Member and NIST to collaborate as described. This Agreement does not authorize the expenditure of any funds, transfer of property nor does it create special consideration by Member regarding any other matter. This Agreement shall not limit Member from participating in similar activities or arrangements with other entities. Member and NIST may be referred to herein collectively as the “Parties.”

Background

The CHIPS Act¹ provides that “The Director of the National Institute of Standards and Technology shall carry out a microelectronics research program to enable advances and breakthroughs in measurement science, standards, material characterization, instrumentation, testing, and manufacturing capabilities that will accelerate the underlying research and development for metrology of next-generation microelectronics and ensure the competitiveness and leadership of the United States within this sector.” The CHIPS Metrology Program was established to fulfill this legislative direction, leveraging NIST’s proven measurement science expertise to conduct research on measurements that are accurate, precise, and fit-for-purpose for the production of microelectronic materials, devices, circuits, and systems.

The CHIPS Metrology Program aligns its research and development portfolios based on the identified metrology needs of seven Grand Challenges:

1. Metrology for Materials Purity, Properties, and Provenance
2. Advanced Metrology for Future Microelectronics Manufacturing
3. Enabling Metrology for Integrating Components in Advanced Packaging

¹ DOC CHIPS activities were authorized by Title XCIX—Creating Helpful Incentives to Produce Semiconductors for America of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Pub. L. 116-283, often referred to as the CHIPS Act).

4. Modeling and Simulating Semiconductor Materials, Designs, and Components
5. Modeling and Simulating Semiconductor Manufacturing Processes
6. Standardizing New Materials, Processes, and Equipment for Microelectronics
7. Metrology to Enhance Security and Provenance of Microelectronic-based Components and Products

In August 2022, NIST published a report titled [Strategic Opportunities for U.S. Semiconductor Manufacturing](#), identifying these seven Grand Challenges as needing critical attention, from a metrology perspective, to achieve the stated vision of a U.S.-led global semiconductor industry.

The CHIPS Metrology Program is committed to ensuring that the direct results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community. The CHIPS Metrology Program is coordinating a community of practice to foster collaborations to help improve data and knowledge sharing across initiatives within the domain of Grand Challenges, as well as to help stakeholders inform the industry standards that are critical for enhancing U.S. economic or national security. The purpose of this Memorandum of Understanding is to include industry expertise and ensure industry-relevance by inviting external stakeholders, (individuals and organizations), to become members of the Community, to advance the CHIPS Metrology Program goals. The CHIPS Metrology Program goals are:

1. Expand measurement solutions for the semiconductor ecosystem through the Grand Challenges;
2. Increase the number of solvers by harnessing the diversity of people and ideas, inside and outside of NIST; and
3. Expand education and outreach opportunities that inspire excitement about manufacturing careers and expand career pathways.

Pursuant to the terms of this MOU, Member joins the CHIPS Metrology Community.

Implementation of Activities included in this Memorandum of Understanding

The Parties to this Agreement establish this collaboration in support of the CHIPS Metrology Community. Pursuant to this Agreement, the parties intend to:

NIST's Responsibilities

NIST intends to provide the following activities and tangential items in support of the collaborative activity, thus enabling member participation to foster advancements in microelectronics metrology:

- Develop a strategy for the Community to ensure specific areas of focus are industry relevant and reflective of member interests and needs;
- Proactively gather member feedback to shape Community engagement topics and structure and to identify ways to improve community collaboration;
- Invite experts to present on areas of interest and convening related panels for discussion;

- Coordinate with speakers and collecting presentation materials, as needed;
- Support smaller collaborative efforts between members that arise as a result of involvement in the Community;
- Manage logistics for Community events, which may involve virtual or in-person presentations, panel discussions, Q&A sessions, workshops, and other forms of engagement;
- Document and maintain Community materials on the public and member-accessible online domains;
- Communicate with stakeholders, including responding to questions about materials and events, distributing event information to current members, providing answers to stakeholders interested in joining, and ensuring all current and potential members have the information needed relevant to active Community participation; and,
- Promote the Community to new potential members, including through email, website updates, and other means of communication.

Member Responsibilities

The Community is a forum for collaboration, where researchers, industry members, data producers, and data consumers are provided an arena to engage and work collectively on matters directly relevant to stakeholder needs. Member intends to provide the following activities and tangential items in support of the collaborative activity as appropriate, thus enabling advancements in microelectronics metrology:

- Participate in monthly Community engagements aligned with their respective Grand Challenge area;
- Participate in panel sessions, presentations, question and answer sessions, or other speaking opportunities where expertise and capacity are available;
- Provide feedback into CHIPS Metrology research priorities and project performance;
- Provide feedback or guidance on CHIPS Metrology training and / or workforce development activities;
- Engage with other members in collaborative efforts that are developed through and fostered by the Community;
- Promote the existence of the CHIPS Metrology Community across stakeholder networks to increase awareness and participation;
- Provide feedback to the Community Chair, Grand Challenge leads, and support staff on Community operations to continuously improve the community.

Authorities

NIST enters this MOU under authorities provided by Title 15 USC 272(b)(1), 272(b)(5), 272(b)(6), 272(c)(23), 272(c)(24), 272(c)(27), 273, 278g-1, and Title 15 USC 4651-4659.

General

This MOU outlines the intent of the Parties to collaborate to implement the Community. This MOU does not create legally binding duties or obligations nor does this MOU limit or restrict the Parties from participating in similar activities or arrangements with other entities. The Parties do not intend to exchange confidential or proprietary information under this MOU.

The organizations that will be included as a “Member” will be reviewed and confirmed by NIST.

Transfer of Funds

NIST’s participation in this MOU and the activities described herein, are strictly contingent upon and subject to availability of funds and other necessary resources to NIST. The Parties agree that this MOU is not in any way an obligation of funds and does not authorize any transfer of funds between the Parties. Member accepts full responsibility for its own expenses incurred relating to Member’s activities contemplated by this MOU.

Limitations

As set forth in 15 U.S.C. §4656(g), the Department of Commerce requires CHIPS R&D to develop domestic control requirements to protect from foreign adversaries any intellectual property developed with funding with CHIPS Act funding. For the purposes of 15 U.S.C. §4656(g), “intellectual property” means any invention that is or may be patentable under U.S. law; and “foreign adversaries” include any “foreign entity of concern” and “foreign country of concern,” as those terms are defined in 15 U.S.C. §4651(7)-(8) and 15 C.F.R. §231.102, §231.104. Pursuant to this requirement, foreign adversaries are not eligible to become members of the Metrology Community.

Dispute Resolution

Should disagreements arise on the interpretation of the provisions of this MOU or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each Member and presented to the Parties for consideration. If agreement or interpretation is not reached within 30 days, the Parties shall forward the written presentation of the disagreement to respective higher management officials for appropriate resolution.

Fundraising

Fundraising may not be endorsed by NIST in relation to the CHIPS Metrology Community. Member may not engage in fundraising efforts for their general purposes related to this activity, nor may Member in any way imply or otherwise indicate that NIST endorses or is participating in any solicitations of funds.

No Lobbying: Member shall not engage in influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress for any purpose directly related to the activities conducted under this Agreement.

Promotional Activities

Members are encouraged to consider their promotional activities in conjunction with their participation in CHIPS Metrology Community, so that the Members will not use related messages or associated events primarily as a vehicle to sell or promote products or services. Members will ensure that any promotional activity does not imply NIST endorsement.

The Use of Name/Logo(s)/ Publicity

Members will not use the logo of NIST or the Department of Commerce or CHIPS for America or any of its components without written permission. Member will not use the name of NIST, the Department of Commerce or CHIPS for America or any of their components in any way which implies an endorsement of any product or service. Member may make factual statements for publicity of the CHIPS Metrology Community. Factual publicity includes NIST sponsorship, dates, times, locations, purposes, agendas, and speakers involved with CHIPS Metrology Community. Such factual publicity may not imply a NIST endorsement of the general policies, activities, or products of member; where confusion could result, publicity should be accompanied by a disclaimer to the effect that no endorsement is intended.

Term, Amendment and Termination

This Agreement will take effect upon signature of both Parties and will remain in effect through two years from signature date. This Agreement can only be amended in writing. Any Party may terminate its participation in the activity upon 30 calendar days advance written notice to the other Party. Such termination will not require changes to materials already produced and will not entitle the terminating Party to property contributed since this Agreement does not authorize funds and/or property transfer.

Signature

EXECUTED on behalf of each of the Parties hereto by its authorized officer or officers respectively on the date indicated.

NIST:

_____ Date _____

(Name of NIST CHIPS R&D Signatory)

Member:

(Name of Entity)

(Name of Signing Individual)

Date

Name:

Title/Role: