

# **Advanced Manufacturing National Program Office**

## **Guidance on Intellectual Property Rights for the National Network for Manufacturing Innovation**

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[http://www.manufacturing.gov/docs/nnmi\\_ip.pdf](http://www.manufacturing.gov/docs/nnmi_ip.pdf)

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## Foreword

The interagency Advanced Manufacturing National Program Office (AMNPO) is hosted by the National Institute of Standards and Technology (NIST). Creation of the AMNPO flows from the recommendation of the President's Council of Advisors on Science and Technology (PCAST), in its June 2011 Report to the President on Ensuring American Leadership in Advanced Manufacturing,<sup>1</sup> that the Federal government launch a concerted, whole-of-government Advanced Manufacturing Initiative. To that end, this interagency office is charged with:

- Convening and enabling industry-led, private-public partnerships focused on manufacturing innovation and engaging U.S. educational institutions, and
- Designing and implementing an integrated whole-of-government advanced manufacturing initiative to facilitate collaboration and information sharing across federal agencies.

By coordinating federal resources and programs, the AMNPO seeks to enhance technology transfer in U.S. manufacturing industries and help companies overcome technical obstacles to scaling up production of new technologies.

The National Network for Manufacturing Innovation (NNMI) program has the goal of advancing American domestic manufacturing.<sup>2</sup> The program will seek to accomplish this by creating a robust national innovation ecosystem anchored by a network of Manufacturing Innovation Institutes (Institutes). The NNMI will fill a gap in the innovation infrastructure, allowing new manufacturing processes and technologies to progress more smoothly from basic research to implementation in manufacturing. The NNMI program will have a scale and focus that is unique, and it is built upon concepts of a strong public-private partnership.

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<sup>1</sup> Report available at

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-advanced-manufacturing-june2011.pdf> .

<sup>2</sup> President Obama to Announce New Efforts to Support Manufacturing Innovation, Encourage Insourcing, <http://www.whitehouse.gov/the-press-office/2012/03/09/president-obama-announce-new-efforts-support-manufacturing-innovation-en>.

## Abstract

Using a strategy of broad public engagement, in April 2012, the Advanced Manufacturing National Program Office (AMNPO) began collecting input on the National Network for Manufacturing Innovation (NNMI) program design. The collection of information from the public was initiated by a NIST Request for Information (RFI), published in the *Federal Register*,<sup>3</sup> followed by a series of regional workshops sponsored by the AMNPO and partner agencies, and focused on the issues presented in the RFI. Reports summarizing the responses to the RFI and the comments received at each workshop were published.<sup>4</sup> In January 2013, the *National Network for Manufacturing Innovation: A Preliminary Design* report was published, built upon public input received.<sup>5</sup>

Subsequently, an AMNPO Intellectual Property (IP) task team was formed to develop and recommend IP policy for the NNMI. A draft set of recommended IP principles, intended to guide NNMI Institutes, was published as part of a Request for Information<sup>6</sup> on November 13, 2013<sup>7</sup> and public comments were received through December 13, 2013.<sup>8</sup> Additional input on the set of recommended IP principles for the NNMI was received from the President's Advanced Manufacturing Partnership 2.0 (AMP2.0)<sup>9</sup> and by reviewing lessons learned from the first pilot NNMI Institute, America Makes. Further, efforts were made to learn from prior public-private partnerships in advanced manufacturing, including SEMATECH. Together, this input formed the basis of the recommended IP principles below.

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<sup>3</sup> "Request for Information on Proposed New Program: National Network for Manufacturing Innovation (NNMI)," 77 FR 26509, May 4, 2012. Available at <https://federalregister.gov/a/2012-10809>.

<sup>4</sup> Reports are available at [http://www.manufacturing.gov/pubs\\_resources.html](http://www.manufacturing.gov/pubs_resources.html), under the "Advanced Manufacturing National Program Office (AMNPO)" heading.

<sup>5</sup> Available at [http://www.manufacturing.gov/pubs\\_resources.html](http://www.manufacturing.gov/pubs_resources.html).

<sup>6</sup> Available at <https://www.federalregister.gov/articles/2013/11/13/2013-27157/draft-guidance-on-intellectual-property-rights-for-the-national-network-for-manufacturing-innovation>.

<sup>7</sup> Available at [http://www.manufacturing.gov/docs/nnmi\\_draft\\_ip.pdf](http://www.manufacturing.gov/docs/nnmi_draft_ip.pdf).

<sup>8</sup> Available at [http://manufacturing.gov/docs/nnmi\\_draft\\_IP\\_comments.pdf](http://manufacturing.gov/docs/nnmi_draft_IP_comments.pdf).

<sup>9</sup> More information available at <http://www.manufacturing.gov/amp.html>.

# Report

## A. BACKGROUND

The Advanced Manufacturing National Program Office (AMNPO) Intellectual Property (IP) task team was formed to investigate IP matters as they relate to the proposed National Network for Manufacturing Innovation (NNMI or Network) program. The NNMI program purpose is to establish a network of regional, shared-use Institutes to strengthen the Nation's innovative infrastructure through private-public collaborations for advancing manufacturing technology within the U.S. The vision involves U.S. companies and educational institutions, supported by government, coming together to align and leverage all available resources in developing world-leading manufacturing technologies and capabilities for national and global impact.<sup>1</sup> Some of the national goals of the NNMI are to:

- Encourage manufacturing location,<sup>2</sup> especially emerging supply chains, within the U.S.;
- Allow new manufacturing processes and technologies to progress more smoothly from basic research to implementation in manufacturing<sup>3</sup> within the U.S.;
- Create an effective manufacturing research infrastructure for U.S. industry and academia to collaborate in solving industry-relevant problems;<sup>3</sup>
- Provide shared facilities to local start-ups and small manufacturers to help them scale up new technologies, accelerate technology transfer to the marketplace, and facilitate the adoption of innovative developments across supply chains;<sup>3</sup> and
- Build workforce skills at all levels<sup>3</sup> of industry need.

The objective of the IP task team was to evolve IP principles that support these goals to help facilitate Institute and NNMI planning. It is recognized that the IP policies of the NNMI will affect the efficiency of developed manufacturing technologies transitioning into the marketplace. To that point, a past recommendation of the President's Council of Advisors on Science and Technology (PCAST) was that R&D projects conducted at the NNMI Institutes be performed under "a strong IP protocol that favors manufacturers."<sup>4</sup> Further, the IP policies of the NNMI can also influence who will participate in the NNMI. Small-to-medium-sized manufacturers (SMMs) can lack the legal resources to operate under burdensome IP policies. SMMs have been consistently targeted among those stakeholders who can most benefit from the shared-use capabilities and facilities to be available through the NNMI.

On November 13, 2013, a draft set of recommended IP principles for the NNMI was published in the Federal Register with a request for public comment.<sup>5</sup> As of December 13, 2013, twenty-nine individual public comments were received, submitted by seven organizations across industry, academia, nonprofits, and government. Additional input on the set of recommended IP principles for the NNMI was received

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<sup>1</sup> See transcript available at [http://www.whitehouse.gov/sites/default/files/docs/the\\_case\\_for\\_a\\_manufacturing\\_renaissance\\_gene\\_sperling\\_7-25-2013\\_final\\_p....pdf](http://www.whitehouse.gov/sites/default/files/docs/the_case_for_a_manufacturing_renaissance_gene_sperling_7-25-2013_final_p....pdf) (page 14) and the report available at [http://www.manufacturing.gov/docs/nnmi\\_prelim\\_design.pdf](http://www.manufacturing.gov/docs/nnmi_prelim_design.pdf) (page ii).

<sup>2</sup> See transcript available at [http://www.whitehouse.gov/sites/default/files/docs/the\\_case\\_for\\_a\\_manufacturing\\_renaissance\\_gene\\_sperling\\_7-25-2013\\_final\\_p....pdf](http://www.whitehouse.gov/sites/default/files/docs/the_case_for_a_manufacturing_renaissance_gene_sperling_7-25-2013_final_p....pdf), page 4.

<sup>3</sup> See report available at [http://www.manufacturing.gov/docs/nnmi\\_prelim\\_design.pdf](http://www.manufacturing.gov/docs/nnmi_prelim_design.pdf), page i.

<sup>4</sup> See report available at [http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast\\_amp\\_steering\\_committee\\_report\\_final\\_july\\_17\\_2012.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_amp_steering_committee_report_final_july_17_2012.pdf), page 24.

<sup>5</sup> "Draft Guidance on Intellectual Property Rights for the National Network for Manufacturing Innovation and Draft Institute Performance Metrics for the National Network for Manufacturing Innovation," 78 FR 68030, November 13, 2013. Available at <https://federalregister.gov/a/2013-27157>.

through the Advanced Manufacturing Partnership 2.0, a PCAST working group. Efforts were also made to incorporate lessons learned from America Makes regarding the formation of IP agreements. Further, efforts were made to learn from prior public-private partnerships in advanced manufacturing including SEMATECH.

## **B. RATIONALE**

The rationale for the recommended principles discussed below is built upon common viewpoints and perspectives expressed across the various inputs received. One common perspective is the need to consider IP policies that encourage participation from SMMs. SMMs can lack the legal resources to adequately review large numbers of legal agreements. One way that Institutes can help engage SMMs is through the use of standard agreements and policies, particularly those surrounding the confidential treatment of background IP, pre-existing data, and generated data.

Another common perspective is that Institutes should not consider IP as a source of revenue for fiscal sustainability. This is considered a necessary and best practice for gaining participation from both large manufacturers and SMMs alike. IP should be viewed as the necessary means for delivering value for membership fees. IP policies, consistent with the NNMI goal to accelerate technologies into the marketplace, are needed to help minimize negotiations and reduce transaction costs associated with IP after invention, thereby decreasing the burden of Institute IP management. A good means to accomplish this is to provide broad IP guidelines at the Institute level while encouraging members to pre-negotiate more specific IP terms at the project level prior to the start of the project.

In addition, NNMI IP policies must conform to government requirements for IP. The IP provisions of the Bayh-Dole Act are an existing framework for promoting the commercialization and public availability of federally-funded research. Further, the Institutes must consider the implications of issues such as government purpose rights, publication, and export control on IP dissemination.

## **C. RECOMMENDATIONS**

The recommendations herein rely heavily on standard industry practices as well as existing statutes, administrative practices, and federal policies regarding funded research. Within these recommendations, the following definitions apply:

- **Institute-Developed Intellectual Property (IDIP)** is defined as intellectual property (IP) developed as a result of Institute-funded projects. Institute funds include any funds that are payable to an awarded project by an Institute regardless of the source of funding.
- **Non-Institute-Developed IP (NDIP)** is defined as IP developed as a result of projects using Institute infrastructure but not funded with Institute funds. Examples can include externally-contracted research, fee-for-service activities, industry crowd-funded projects, and company incubation.

The recommendations are presented in the following table.

Category	Recommended Institute IP Principles
<b>Institute-level Intellectual Property Management</b>	1 Individual Institutes should develop, as part of each Institute’s Governance and Membership Agreement, an intellectual property management plan that addresses, at a minimum, IP ownership, definition and dissemination of Institute-developed IP and non-Institute-developed IP, technology licensing, the treatment of confidential data (e.g. trade secrets) and background IP, right to publish, the handling of disputes related to IP within the Institute, and the transfer of IP to members prior to dissolution of the Institute.
<b>Project-level Intellectual Property Management</b>	2 Institutes should encourage applied research project team partners to pre-negotiate IP terms no later than the start of a joint project. At a minimum, these pre-negotiated terms should include IP ownership, licensing, maintenance, and dispute handling as well as any restrictions on publication of jointly owned IP.
<b>IP Ownership</b>	3 Unless otherwise stipulated in a prior agreement, all IP generated within the Institute should be owned by the Institute member(s) employing the Inventor(s). IP with co-inventors should be jointly owned by employers.
<b>Institute-Developed IP Rights</b>	4 Members creating IDIP should grant the Institute and members-in-good-standing (according to its membership agreement), at the time of creating the IDIP, a limited, non-exclusive license to use the IDIP for the member’s internal research or development purposes, but NOT to make, use, or sell products or processes coming from the IDIP. License terms for commercial use (including royalties) are to be negotiated in good faith in a separate agreement from the membership agreement. Rights to IDIP are available to a member only for IP developed during the time which the member is in good standing.
<b>Non-Institute-Developed IP Rights</b>	5 Intellectual property developed within the Institute facilities or networked organizations, and without federal or Institute funds as NDIP, need not be shared with other members and is not considered IDIP. Use of facilities and equipment for these purposes must be at full cost recovery rates, for all members, according to federal contract regulations. Ownership and joint ownership of patents for NDIP projects should be determined by project agreement.
	6 The use of government-funded Institute equipment and facilities, charged at full cost recovery rates, during research conducted at an Institute, solely with industry funds, should not create a government use right or “march-in right” for resultant NDIP.
<b>Background IP</b>	7 Background IP is owned by the supplier of the IP, and no rights are forfeited by bringing that IP into Institute projects.
	8 The owner of any background IP shall allow its use by partners on a project-by-project basis for the term of and sole purpose of the project. In the event that the parties deem the said background IP may be instrumental in the further use and deployment of the technology, process, or product developed via the work of the partners participating in the project, the partners will provide, by license, agreement for the continued use of the IP beyond the close of the said project as deemed necessary and agreed upon by the owner of the IP in the initial project agreement.

Category	Recommended Institute IP Principles (continued)
<b>Data Rights and Management</b>	9 As part of the intellectual property management plan of an Institute, Institutes should develop a data plan that complies with export control law, defines and differentiates the type of data within the Institute (limited rights, Institute protected, project protected, unlimited rights, etc.), and defines the data access and control needed to maintain confidentiality and cybersecurity. The plan should make use of cybersecurity best practices. One example is the Security and Exchange Commission's OCIE cybersecurity initiative <sup>6</sup> guidelines for registered investment organizations. Using these cybersecurity best practices can help to standardize the protection of IP, to identify unusual activity, or attempts to steal IP.
	10 Pre-existing data remains the property of the original owner. Pre-existing proprietary data, labeled as proprietary, are held confidential unless released by the owner.
	11 Generated data are owned by the member(s) generating the data. Generated data are held confidential for an agreed upon period of time. Data that is generated by parties under an Institute-funded project will be owned jointly by the members generating the data and the Institute unless an agreement stating otherwise is mutually agreed upon by the Institute and other parties involved. The federal government retains rights to Institute generated data and IP consistent with the authorities of the government funding agency and applicable published Office of Management and Budget (OMB) guidance.
	12 Pre-existing & generated data are free to be used by all members unless marked proprietary by the owner. Protection of proprietary data requires that all proprietary data must be properly marked as proprietary. Usual exclusions includes data already in possession, data independently developed, data that becomes publicly available without breach, and data from a third party received without restrictions.
<b>Right to Publish</b>	13 An Institute within the NNMI shall have policies that allow for the results of federally funded research to be made publicly available through publication. However, some data may have significant proprietary value, and it is permissible to delay publication for a certain period of time so that participants may assess the proprietary value and patentable nature of the project findings.
<b>Government Rights</b>	14 To the extent permitted by law, all members, regardless of type, should have the same rights to request to retain title of the IP generated under an Institute project involving federal funding.

One potential principle discussed at length was the use of background IP in lieu of membership fees. The team decided not to include this concept as a principle but rather to allow the Institutes to make their own determination on this matter based upon membership input. Concerns included the subjective nature of evaluating the background IP being provided, which could require substantial resources for analysis. Such

<sup>6</sup> <http://www.sec.gov/ocie/announcement/Cybersecurity+Risk+Alert++%2526+Appendix++4.15.14.pdf>



resource requirements could, in turn, lead to concerns over the equity of membership fees, which might ultimately erode the membership base of an Institute.

#### **D. CONCLUSIONS**

The IP strategy for large consortia is difficult to develop in advance of involvement from all parties. The recommended NNMI Institute IP principles contained in this document are intended to address the primary IP issues that Institutes will likely face. It is intended that, underneath these guidelines, the Institutes will develop specific IP strategies and plans appropriate for their membership. The intent of this guidance is to provide a flexible framework to Institutes in designing their IP strategies while clarifying key IP rights.

In particular, specific strategies are needed to appropriately incentivize participation by regional SMMs who are likely to be major users of the NNMI-shared infrastructure. SMMs lack the infrastructure for scale-up and distribution to rapidly bring technologies to market. Therefore, incentives are needed within project-level agreements and commercial licensing agreements to provide SMMs the revenue to benefit from project participation. Development of these and other types of agreements will be critical in fully engaging the diverse spectrum of manufacturing industry within the NNMI.