NATIONAL SCIENCE FOUNDATION
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NSF 21-061

Frequently Asked Questions (FAQs) for Future Manufacturing (FM) FY21 Solicitation (NSF 21-564)

1. If a proposal covers multiple thrusts, should this be in the title?

2. Can we submit white papers?

3. What do you mean by "new manufacturing capabilities?"

4. Can a proposal focus exclusively on education and workforce development? Can it focus exclusively on research?

5. Do I need to have received a Seed Grant award before I can apply for a Research Grant?

6. Can a proposal have a single PI? Can it have two PIs? Is there a required minimum? Is there a recommended number?

7. What is the difference between FM and Small Business Innovation Research (SBIR)?

8. Do I have to have industry involved in the proposal?

9. Does it matter if the PI is from a U.S. Institution of Higher Education (IHE) or commercial organization?

10. Can funds be used to support a foreign organization?

11. Can funds be used to support research performed at a national laboratory or other government agency?

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1. **If a proposal covers multiple thrusts, should this be in the title?**

The solicitation states that the major thrust area, Cyber, Eco, or Bio, should be in the title. The Principal Investigator (PI) should identify the one major thrust area to include in the title. The solicitation recognizes that proposals may cover more than one thrust

area, and additional thrust area(s) should be acknowledged in the project summary and description.

2. **Can we submit white papers?**

Investigators considering submitting an FM proposal may contact any of the program officers listed in the solicitation to discuss the solicitation and to get an indication for the fit of the proposed activities with the solicitation's goals, but program officers cannot provide information that is not in the solicitation.

3. **What do you mean by "new manufacturing capabilities?"**

The FM solicitation focuses on fundamental research and education to overcome barriers "to enable new manufacturing capabilities that do not exist today." Research should be at the lowest end of the Technology Readiness Level (TRL) scale. More information on TRLs can be found at https://www.nasa.gov/pdf/458490main_TRL_Definitions.pdf.

4. **Can a proposal focus exclusively on education and workforce development? Can it focus exclusively on research?**

It should focus on both. The goal of the FM solicitation is "to support fundamental research and education that will enable new manufacturing approaches." In addition, two of the solicitation-specific review criteria state, "How effective and compelling is the proposal's argument that the proposed fundamental research will eliminate barriers that limit manufacturing today and enable new manufacturing capabilities? How effective and compelling is the proposal's argument that the proposed educational activities will equip students and other workforce participants with the skills to engage in Future Manufacturing and broaden participation by building on best practices and evidence-based approaches?" The solicitation describes a variety of examples of fundamental research for each of the three thrust areas and possible education and workforce development activities.

5. **Do I need to have received a Seed Grant award before I can apply for a Research Grant?**

No.

6. **Can a proposal have a single PI? Can it have two PIs? Is there a required minimum? Is there a recommended number?**

Each proposal will have a single PI and may have up to four co-PIs. If there are more investigators on the project, they should be listed as other Senior Personnel. Collaborative proposals in which multiple institutions submit multiple proposals for a

single project are not allowed in this solicitation. The solicitation does not state a requirement or recommendation for the number of co-PIs. However, proposers should note that one of the solicitation-specific review criteria states "Is the composition of the multidisciplinary team appropriate for the scope of the proposed activities, and how effectively are proposed activities integrated among team members?"

7. **What is the difference between FM and Small Business Innovation Research (SBIR)?**

   The solicitation states that the "goal of the Future Manufacturing program is to support fundamental research and education that will enable new manufacturing approaches to eliminate scientific technological, educational, economic and social barriers that limit current manufacturing." In addition, the solicitation requires an education and workforce development plan. The SBIR program supports the creation of opportunities to move fundamental science and engineering out of the lab and into the market. More information may be found at https://seedfund.nsf.gov.

8. **Do I have to have industry involved in the proposal?**

   The solicitation states that partnerships with industry are encouraged. However, the solicitation does not require an industrial participant in the proposal. If there is an industrial participant, the project may be submitted as a Grant Opportunities for Academic Liaison with Industry (GOALI) proposal, following the guidance in Chapter II.E.4 of the NSF Proposal & Award Policies & Procedures Guide (PAPPG), though it is not required that a proposal with an industrial partner be a GOALI.

9. **Does it matter if the PI is from a U.S. Institution of Higher Education (IHE) or commercial organization?**

   The solicitation does not make any recommendation. Proposers whose projects involve for-profit organizations should consult PAPPG, Chapter I.E.3 for further information.

10. **Can funds be used to support a foreign organization?**

    The solicitation states that "NSF funds should be used to support only U.S.-based participants in any international collaboration." An exception may be allowed when the foreign organization's involvement is essential to the project. Proposers should consult PAPPG Chapter I.E.6 for further information and requirements.

11. **Can funds be used to support research performed at a national laboratory or other government agency?**

    NSF does not normally support research or education activities by scientists, engineers or educators employed by Federal agencies or Federally Funded Research and

Development Centers. Proposers whose projects involve government agencies should consult PAPPG Chapter I.E.7 for further information.