

# **NOFO INFORMATION SHEET FOR THE “JOINT TECHNOLOGY TRANSFER INITIATIVE” FY2021 COMPETITION**

Information about the JTTI Program:

National Oceanic and Atmospheric Administration (NOAA) collaborates with the American Weather Enterprise on cooperative research activities and provides financial support to transition weather technologies from the American Weather Enterprise to NOAA’s National Weather Service (NWS) operations through several funding programs. The Joint Technology Transfer Initiative (JTTI), created by the Congress in 2016, is one such program to accelerate the transition of matured weather research to NWS operations. The mission of the JTTI is to ensure continuous, cost effective development and transition of the latest scientific and technological advances into NWS operations. Within NOAA’s Office of Oceanic and Atmospheric Research (OAR), the Weather Program Office (WPO) manages and implements the JTTI program in close collaboration with the NWS.

Through this Joint Technology Transfer Initiative (JTTI) announcement, WPO/OAR/NOAA is seeking proposals to support further development, testing and evaluation of mature weather research that has potential for improving NOAA’s Unified Forecast System capabilities (<https://ufscommunity.org/>).

Projects that are suitable for the JTTI program are matured enough that can transition to NOAA operations within the next 2-5 years. As such, projects that are most suitable for this competition are at Readiness Level (RL) 4 or above which mean the concept has been already developed and validated in their own or laboratory environment and ready to be tested in the NOAA environment. Prototype development suitable for UFS is allowed. As per NAO 216-105B, NOAA uses Readiness Levels to track the progress of the Research to Operations transition projects. For a full description of NOAA Readiness Levels, investigators are directed to NOFO for this competition and announcement in Appendix A of this NOFO. Investigators are encouraged to understand the Readiness Level of their project and assign the appropriate RL for the project. Note that projects that are in exploratory stage or addressing basic research (RLs less than 4) are not suitable for the JTTI competition. They may be suitable for other competitions of the associated NOFO.

Information on JTTI Program Priorities:

This year’s JTTI priorities focused on three main themes: (i) In collaboration with the Unified Forecast System (UFS) community ([UFS Community Site](#), [UFS R2O Project Proposal](#)), further develop, test and enhance data assimilation techniques, develop and evaluate physics, improve model component coupling techniques and capabilities, and utilizing Artificial Intelligence/Machine Learning (AI/ML) for improving forecasts, (ii) Further development and enhancement of physics suite tuning and evaluations, post-processing techniques and tools, and (iii) Improve forecasts and messaging of extreme weather and high impact weather events (e.g., severe convection, winter storms, extreme rainfall). Detailed program priorities are identified in the program priorities section IB of the associated NOFO. Proposals must address one of the priorities listed in the priorities section of the NOFO and must be at Readiness Level 4

or above. PIs of proposals addressing priorities JTTI-1 and JTTI-2 are highly encouraged to consult the UFS R2O proposal and the UFS R2O team members in developing their proposals.

#### Information on Testing and Evaluation:

As mentioned before, JTTI is a research to operations transition program. Typically, a good transition project follows the development, demonstration and deployment phases. Projects must have a good test and evaluation plan to demonstrate the value of the outcome of the project to the community.

Investigators are highly encouraged to contact the respective testbed managers (<https://www.testbeds.noaa.gov/>) to assess the suitability of the project to test in that particular testbed and visit section IV.B.2.h of the associate NOFO for details on collaboration and submission requirements. If the proposal is funded, in coordination with the testbed manager, the PIs are required to develop a test plan within six months of the start of the project. Successful transition projects will be assigned a Point of Contact from the NWS to guide through the transition process. The PIs, in coordination with the NWS POC, are also required to develop a high level research to operations transition plan within the first six month of the project start date.

Although the deployment phase of the project is not part of this funding call, projects must have an end goal where the outcome of the project will be implemented. Investigators must identify the receiving office in the NWS where the outcome of this project will be implemented. As such, investigators are highly encouraged to collaborate with the NWS scientists and visit section IV.B.2.h of the associated NOFO for details on submitting collaboration acknowledgement form. Investigators are highly encouraged to identify a clear transition path with demonstration of the value of the products through evaluation in one of the testbeds or other evaluation mechanisms and a receiving office in the NWS with collaborators from NWS.

#### Guidance on Proposal Evaluation:

Investigators should understand that Joint Technology Transfer Initiative (JTTI) is a program that is intended to accelerate those projects that are aligned with one or more of the current program priorities (as identified in the NOFO) to a funding end-state where if the project results in a proposed transition of output to UFS or to one of NWS operational unit. During the review process, reviewers will focus, among other evaluation criteria, on a project's transition ability after funding has expired, how the final deliverable(s) would serve to better the weather community and the public it serves as a whole, and if the final product would fit within the framework of the UFS. It is in the best interest of the principal investigators, then, to demonstrate in their proposal how their project meets those goals. Those projects not demonstrating a strong possibility of transition to operations after funding ends, or supporting a concept that is hyper localized (i.e. "stovepiping") will not be rated highly by reviews.

In order for project investigators to understand the needs and environments of the weather enterprise, investigators are encouraged to form collaborations with an operational center, especially those within the National Weather Service where a project's final product could be housed if selected for transitioning after funding completion. This collaboration should be supported with evidence, such as a signed letter of support or the inclusion of a staff member as a non-paid collaborator, pursuant to the eligibility requirements described in the NOFO. The importance of this operational collaboration is seen

throughout the evaluation criteria that reviewers will use to grade an incoming application. If there are plans to utilize a testbed for project demonstration/collaboration purposes, principal investigators are required to state their intentions clearly in their statement of work.