Q&A RESPONSE: 6/21 AIDRFIC WEBINAR

R&D PROJECT FUNDING: ARTIFICIAL INTELLIGENCE DRIVEN RF INTEGRATED CIRCUIT DESIGN ENABLEMENT (AIDRFIC)

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1. **Does accepting CHIPS money on specific programs preclude companies from pursuing future CHIPS opportunities?**

    No.

2. **Will RF Jump Start support proposals that incorporate <technical approach X>?**

    Proposers are responsible for determining what approaches to use as foundations for their proposals.

3. **What is the model of the membership? Is there a cost sharing? Is it at an organization level or individual level?**

    The Membership program is under development. We will be sharing this information as soon as it is available through our website, newsletter, and direct emailing to the community. Our goal as shared during the 6/21 AIDRFIC webinar is to have our first members in September of this year.

    While entities are not required to be NSTC members at the time of application, Natcast will work with each awardee so they can become an NSTC member at the time of Award.

4. **Are you or will you be de-conflicting potentially related or overlapping opportunities across the inter-agency space? (I.e. Energy, NSF, EDA)**

    We will be attempting to avoid duplicative investments.

5. **What is the amount allocated for the first R&D funding opportunity?**

    The anticipated AIDRFIC program funding total is up to $30M with 3-4 awardees anticipated.

6. **[The webinar] mentioned Si, SiGe, GaAs. Any interest in GaN? InP?**

    Per Call for Proposals Section 1.1 "Performers will be responsible for fabricating these designs on shared wafer runs using specified foundry processes. The microwave process target is the Qorvo 0.25um Gallium Nitride (GaN) process or equivalent, and the millimeter-wave target process is GlobalFoundries Silicon Germanium (SiGe) 8XP *BiCMOS* 130nm process or equivalent. Natcast will submit the fabricated circuits to a

3rd party for independent verification and validation to assess the performance of the updated tools."

7. **EDA companies are already introducing AI/ML features to the entire design flow - how will the AIDRFIC R&D be different?**

   AIDRFIC is focused on RF Integrated Circuits.

8. **In the training data Task 1, can you spell out the data requirement (for example, based on simulation, or validated with measurement)?**

   The training data can come from any combination of simulated results or validated test results. Proposers are responsible for determining their approach and include in their submission.

9. **What about GaN?**

   GaN has replaced GaAs as the compound semiconductor process.

10. **Not InP or GaN...only GaAs?**

    GaN has replaced GaAs as the compound semiconductor process. The performer must use either SiGe or GaN. Performers are welcome to use additional processes, but it is outside the scope of this effort.

11. **Will Natcast define the common design flow to ensure the tools are compatible among performers? (in Task 2)**

    No. The expectation is that the individual performing teams will do this. Per Section 1.4 in the Call for Proposals, "Proposals should also describe ... [p]roposed changes in the RFIC design flow to accommodate the proposed tool capabilities..."

12. **Circuit-package co-design is a key aspect of RFIC design. Is this in scope for this program?**

    No. Circuit-package co-design is important, but it is outside the scope of this effort.

13. **In Task 3, will Natcast default tools updates be performed on cloud environment?**

    Performers choose the AI-based tools to create or update. Natcast is not providing any default tools or a cloud environment. Reference Section 1.4 in the Call for Proposals.

14. **In Task 4 benchmark, will Natcast assume PDK as part of the tools and flows?**

No. The PDK from the foundry is to be used by the tools/flows.

15. In Task 4, will Natcast ask performers to select foundries for MPW? Or Natcast will limit the MPW foundries involved?

Natcast will recommend one SiGe foundry and one GaN foundry.

16. Would there be any IP restrictions on the participants?

Yes. See Call for Proposals Section 2.5 for details.

17. Are the designs for the AI/ML demonstrations designed to be transition-able to weapons systems? New commercial products? Will the design selections be then judged by economic impact?

The AIDRFIC program is intended to demonstrate the capabilities of using AI in RF design, lower the potential technology risk and enable EDA companies to produce commercialized tools. Please refer to Section 1.1 in the Call for Proposals, Task 6, and Section 5.1 which describes all the criteria for evaluating Proposals.

18. In Task 5, can you spell out the requirement for commercialization (expected shipment of chips, for example)?

It is the proposer's responsibility to develop and articulate a compelling commercialization plan. Per Call for Proposals Section 5.1, proposals will be evaluated on their Transition and Impact strategy.

19. Will you be speaking more to the vehicles and PFAS topic opportunities today?

No.

20. Could you please comment on the IP protections for new startups to launch given that data will be shared among the team members ---also related, how do we share data that might be proprietary to different pdks?

See Section 2.5 in the Call for Proposals describing ownership of IP, and Intellectual Property and Data Rights. In terms of sharing proprietary data, Performer may only share proprietary data of others if it has obtained all necessary permissions, licenses, or consents from the rightful owners to share such IP.

21. Does every performer need to perform all tasks?

Yes. However, teaming is encouraged per Call for Proposals Section 1.1: "Proposal teams should include a broad membership capable of successfully completing the program together…"

22. [For] the training data related to the specific RFICs that Natcast will share as exemplars--will these specifications be shared in the CFP?

No. Natcast will provide specifications for two exemplar circuits to performers, but selection of training data is to be determined by the performer.

23. Is the MPW tapeout GFE'd by Natcast, or would teams need to include pricing?

The MPW will be scheduled by the performer and costs accounted for in their budget. Natcast will pay for independent verification and testing of the designs prior to fabrication.

24. Is AIDRFIC a single-award contract or multiple awardees?

We anticipate multiple awardees.

25. Do the foundries need to be based in the US?

Yes.

26. Do applicants for the proposal need to be U.S. citizens?

The applicant for the proposal needs to be a legal entity, not an individual person. Individuals do not need to be a U.S. citizen to be eligible to participate in a proposal. Teams must pass a research security review, as described in Section 2.4 of the Call for Proposals. Please refer to Section 3.5 in the Call for Proposals for additional information on foreign collaborations as well the CFP notes that "foreign individuals" can participate in an unfunded basis. That reference to "foreign individuals" means persons participating from a foreign location. Non-U.S. citizens whose work will occur in the U.S., and who are lawfully present and authorized to work in the U.S., are eligible to participate on a funded basis. Please also refer to Section 2.5.2 describing IP ownership by a U.S. entity to comply with domestic control requirements.

27. We have a mixed company setup part outside of the US, would applying be allowed?

Entity must have a U.S. presence. Please refer to Sections 2.5.1 (Domestic Control Restrictions) and 3.5 in the Call for Proposals.

28. How do we engage with Natcast if we have an enabling capability that will assist with Natcast managing the consortium--collaborators, projects, etc.?

Natcast

Please contact Natcast directly through info@natcast.org.

29. Will Dr. Gyurcsik be the direct Program Manager for the AIDRFIC program? Or will there be another? We saw a job posting indicating there may be another.

Dr. Gyurcsik will remain associated with the program through its completion.

30. Is Natcast a 501 (C) (3) nonprofit, or a different type of entity?

Natcast is a nonprofit entity.

31. With regard to R&D funding provided by Natcast (e.g. recently launched AIDRFIC program), is it possible for academic researchers to publish a research article as a result of the funded research? If not, what would be an option?

Yes. Please refer to Section 2.3 in Call for Proposals.