M-STUDIO Frequently Asked Questions (FAQ)

1. Will slides or video be posted of the proposer's day?
    a. Video of the presentations can be found at: https://www.youtube.com/watch?v=UjOrrQv8YZs
2. Is there a minimum substrate size required by the program?
    a. No minimum substrate size is defined as a metric in the Broad Agency Announcement (BAA).
3. Are there any preferred approaches to achieving the program goals?
    a. Any approach that can provide a credible pathway towards achieving the program metrics and goals will be considered viable. This includes recent published approaches or new innovative ideas that can be substantiated by evidence and simulation.
4. Is it important for the approach to be complementary metal-oxide semiconductor (CMOS) compatible and/or utilize CMOS process flows?
    a. Transition of the M-STUDIO technology is important, therefore CMOS integration was mentioned because it may have significant impact on the future microelectronics industry. However, any material system that would have high impact for DoD and industry will be considered.
5. Has guidance been posted on how much funding is available or how many teams will be selected for funding?
    a. No anticipated funding level will be provided.
6. Do you expect large industrial fabs including international fabs to propose?
    a. The M-STUDIO program is open to any proposal from any entity that can comply with the eligibility section of the BAA, to include non-U.S. entities that are able to comply with export control regulations.
7. Are there any guidelines related to the 10-layer Phase 2 metrics? More specifically, are there a required number of distinct materials, or do all 10 layers need to be high electron mobility?
    a. There are no restrictions on the total number of distinct materials as long as each material reaches 95% of the SOA for each layer mobility. A two-material system (ABAB) is acceptable as long as it reaches the criteria specified in the BAA.
8. Is it acceptable to create a 10-layer lateral stack, meeting the program dimensions and requirements?
    a. No, it is expected that the 10 layers must be stacked vertically.
9. Will you accept submissions to the first phase only?
    a. No. proposals must address both phases to be considered compliant with the BAA requirements and reviewed.
10. What are the types of acceptable devices and measurements in each phase?
    a. These measurements and devices are defined by the proposer to demonstrate measured results meeting the program metrics. In addition, the proposer should discuss why their chosen devices and results are sufficient to demonstrate the achieved mobilities are > 95% of SOA.
11. Is there a way to receive notifications of amendments to the BAA or attachments?
    a. Yes, please use the below link to the description of the "follow" function in SAM.gov https://www.fsd.gov/gsafsd_sp?id=kb_article&sys_id=25b15b7a87d37990f20c63180cbb3524

12. Please further explain this statement from the BAA: “precision material transfer techniques have been demonstrated, which require a base layer thicker than a few microns to provide adequate mechanical support. Due to their size and thickness, such techniques are not compatible with nano-dimension device level monolithic integration."
    a. All novel material synthesis techniques compatible with leading edge and future advanced node semiconductor manufacturing processes that can result in achieving M-STUDIO goals will be considered.
13. Is special permission required to add a non-US organization or university to a proposal?
    a. No, special permission is not required to include a non-US university. Please see Section IV: Special Considerations, bullet 2 on Page 9 of the BAA.
14. Would an approach that leverages an initial seed/pseudo-substrate count toward the film thickness metric?
    a. M-studio seeks lattice mismatched semiconductor material synthesis on silicon substrates with a 1 nanometer or less buffer layer or no buffer layer. In this case the seed layer/pseudo substrate would count towards this thickness.