

DPA26BZ05-DV018
Hoboken SBIR XL
Frequently Asked Questions (FAQs)

1. For Track 1: Marinized Underwater 3D Concrete Printer for Near-Shore Demonstration, does "fully submersible 3D concrete printer" mean the entire printer, including all integral and associated mechanical, electrical, and other systems/components, has to be fully submersible, or can it just be the nozzle/delivery mechanism that is fully submersible?

A: Yes, the entire printer, including all integral and associated mechanical, electrical, and other systems/components, have to be fully submersible.

2. For All Tracks: Can we choose specific subbullets from various Tracks, or are the Tracks all-or-nothing? e.g. Can we apply to only Track 1, bullets 3+4, and Track 3, bullets 1+2?

A: All sub-bullets must be addressed for each track.

3. Track 4 requires demonstration of underwater printing of a structural element in coordination with at least one hardware track performer, but performer identities are unknown at proposal time. Should a Track 4 proposal include a teaming arrangement or letter of intent with a specific hardware track proposer, or will DARPA facilitate pairing among awardees after selection?

DARPA may facilitate pairing, but teaming arrangements will also be considered.

4. The topic states that teams may submit joint proposals or letters of intent to collaborate on integration activities. What form should a joint proposal take, a single proposal with subcontractors or separate proposals with mutual letters of intent, and how do the page limits apply in each case?

A: Separate proposals with mutual letters of intent are desired. Each proposal will stand on its own with its own page limits.

5. For the Track 4 sediment characterization library, may proposers use commercially sourced or locally collected analog sediments (dredged material, marine clays, and beach sand) or must sediments be obtained from specific operationally relevant sites?

A: Systematically characterize a representative library of locally available sediment types relevant to Hoboken program applications, including coarse, low-water-absorption sediments (e.g., sand, <100 μm) and fine, high-water-absorption sediments (e.g., clay, <50 μm), with particular emphasis on sediment types likely to be encountered in near-shore and expeditionary environments relevant to the target applications.

6. Track 4 requires proposers to demonstrate previous work with low-binder, non-traditional concrete mixes. Must the documented prior work itself have been at or below the 20

percent binder level referenced in the topic, or does systematic, documented development of non-traditional printable concrete mixes satisfy this requirement?

A: Low binder mixes will be considered favorably.

7. The Phase II work plan directs performers to "Conduct prototype demonstrations of individual subsystems in lab or relevant environments as applicable (e.g., near-shore underwater)," and Track 4 calls for evaluating durability "under near-shore and underwater conditions." For Track 4 formulation work, may these demonstrations and evaluations be conducted in laboratory tanks replicating ocean water conditions (seawater chemistry, temperature, and submersion), or is an open-water near-shore demonstration required?

A: Open water near shore demonstrations will be required in concert with one of the other track performers.

8. The topic's only depth figures appear in Track 1, "shallow depths (> 5 meters) near-shore up to medium depth (< 100 meters)." Would DARPA state the depth range each term covers, where "shallow" begins and ends, where "medium depth" begins and ends, and what depth range and distance from shore "near-shore" covers? Do those definitions apply wherever the terms appear in the topic, including the Phase II near-shore demonstration language and Track 4's "near-shore and underwater conditions"?

A: This demonstration will occur in collaboration with one of the other Track Performers at the depth at which they will be testing their equipment.

9. To build the sediment library, do performers need to identify representative sediment types and sediments and source them? Or will DARPA provide sediment samples as in Phase I Trenton?

A: The performers are expected to source sediments.

10. Do all PI/Co-PIs need to be citizens or permanent residents? Will performers be allowed to hire foreign graduate students or postdocs to work on this project?

A: Foreign citizens can work on SBIR/STTR efforts. Note that foreign risk assessments are conducted on all key personnel, and any risks identified would require mitigation or could disqualify a firm from award.

11. For SBIR Phase II, NSF normally allows the lead performer to subcontract up to 50% of the total funding to partners like universities. Does DARPA use the same rule?

A: Yes

12. Does the performer need to propose strategies to identify, locate, and source the representative sediments, perfectly with the help of an ocean sedimentologist? And perfectly work closely with performers in the other tracks to coordinate samples.

A: Preference will be given to Performers who develop the database based on a breadth of ocean sediment types. As stated in the solicitation, the Performer must demonstrate successful underwater 3D printing of at least one structural element using a mix design recommended by the AI concrete formulation tool, conducted in coordination with at least one hardware track performer.

13. Must our small-business Prime have direct experience with low-binder, non-traditional concrete mixes, or can this requirement be satisfied by our subcontractors' experience? Can our subcontractors' broader 3D concrete-printing experience, combined with our collaboration with a team highly experienced in Tracks 1–3, satisfy the required low-binder concrete experience?

A: The submitting team must demonstrate experience with low binder concrete mixes, whether that is the Prime or the subcontractors. However, the requirement to satisfy Phase 1 cannot be satisfied by a collaborating team that is submitting a separate proposal.

14. For Track 2&3 do all the subsystems need to operate underwater? Or can the processing take place on a barge/boat/shore after dredging, dewatered, mixed, and then be pumped back down to the printer?

A: We are looking for all subsystems to operate underwater.