



Synchro Low-Cost Tech Procurement and Evaluation

Request for Information

Background

With accelerating economic interests in ocean spaces and the need for climate solutions for and from the oceans, there is growing untapped potential for the low-cost technology field to meet the demand for advanced ocean observing capabilities. Synchro is stepping up to meet this challenge by establishing a low-cost tech procurement and evaluation initiative focused on demonstrating the capabilities of prototypes and early commercial products. This includes low-cost tech that is not yet broadly used in ocean management and decision making, but has potential for significantly influencing science, conservation, and ocean-based climate solutions.

Synchro is a co-designed testbed to synchronize and evolve technology solutions for industry, ocean science, and conservation (<https://oceansynchro.io/>). Ultimately, Synchro aims to launch innovative observing technologies from obscurity to mainstream use. Biological and ecosystem insights are the highest priorities, though innovations targeting physics and biochemistry will also be considered. Synchro will foster no-cost access to a wide range of platforms for testing and evaluation (e.g., boats and research vessels, buoys and moorings, piers, seawater pump stations and test tanks). Synchro's overarching goal for this procurement and evaluation effort is to discover scalable solutions using low-cost technology that meet management and decision-making needs. It aims to create synergy between low-cost technology producers and information users, catalyze market opportunities, and facilitate widespread adoption. Synchro offers the opportunity to advance progress in monitoring our oceans at a time of great need by moving beyond technical specifications, and prioritizing the practicalities of data collection, analysis, and dissemination.

Technologies will be evaluated for impact, feasibility, and performance against manufacturer specifications. Our evaluations will include consultations among experts and users via a process that highlights product-market fit (i.e. illustrating how capabilities meet information consumers' needs). Expert feedback and user access may be provided by Synchro partners, such as University of California, Santa Cruz, Hakai Institute, Moss Landing Marine Labs, and University of Washington as well as through our partners' larger observing network, including U.S. government regulators like NMFS, NOAA, and BOEM, and tribal communities. There is also potential for products to be disseminated to international users.

This program is expected to fund approximately \$350,000 in technology procurement, distributed among several technologies. Individual purchase orders are expected to range **up to \$100K**, but will vary. The funds are only to be allocated towards the purchase of materials and

equipment, along with essential non-personnel costs; no other expenses are allowed. Funds should be spent within one year.

Definition of “low-cost technology” for purposes of this call

- Costs are substantially lower than reference, or conventionally used, products with the same or similar functionality.
- Platforms, sensors and samplers will be considered.
- Refers to tools, devices, or systems that are designed, developed, and priced to be affordable and accessible to a wide range of users, particularly those with limited budgets such as early career scientists, small research groups, or community science organizations. Ongoing recurrent costs for use will also be considered such as maintenance, calibration and work needed to produce useful data. These technologies aim to significantly reduce the financial barriers associated with scientific research and data collection, enabling broader participation and engagement in various fields.

Specifications

We are seeking information submissions to inform low-cost technology procurement at readiness levels from Technology Validated in Lab (TRL 4) to Actual System Proven in Operational Environment (TRL 9), but not yet in broad use. Systems of interest will be designed for monitoring marine environments, for which the costs are lower than conventional products with the same functionality. We are open to a wide spectrum of concepts, however, applicability towards biology and ecosystem observing is the highest priority. Specifically, technologies for biomolecular/eDNA, passive acoustic monitoring (PAM), active bioacoustics, animal tagging/telemetry, and imaging are of primary interest. Respondents covering physics, biogeochemistry and other aspects of ocean observing technologies are also welcome and encouraged. At TRL 9, respondents should demonstrate—given current use—how this may advance breakthroughs from small scale production to broader use.

Submissions should consider the following requirements:

- Technology must be ready for production in multiple units, either in the volumes quoted at the outset, or ready for manufacturing, pending Synchro procurement. This may include cases in which the most developed technology is a lab-tested prototype.
- Purpose of the technology must be targeted for research or monitoring marine environments.
- Cost considerations:
 - Prioritized procurements will be for items under \$5,000 USD per unit. Unit costs of higher amounts will be considered, however costs over \$25k will require additional information-gathering steps.
 - Subscription, leasing, and data buying/service models are also eligible.
 - Please provide any type of advisable or necessary related service (e.g., training, calibration).

Submission deadline: 11:59pm PST on January 31, 2024

Information submissions should be include the following:

Email your information submission to info@oceansynchro.io by 11:59pm PST on January 31, 2024. The document should be no more than three pages (excluding figures, tables or appendices) and address the following points:

- Organization details
 - Company or organization name
 - Point of contact name, email address, phone number
 - Select track record elements, or examples of prior success
- Costs:
 - Unit cost options including volume discounts
 - Peripheral / accessory cost options
 - Training cost options
- Estimated lead time to delivery
- Basic technology specifications (e.g., platform specifications, variables measured and expected performance)
- Societal impact and use case(s) of technology
- [Technology readiness level](#)
- Feasibility of implementation, both technically and in terms of resource demand. For example, what the hardware requires in order to yield sufficient data such as labor, maintenance, calibration.
- Reasoning to support how the technology is more cost-effective than conventional solutions.

For additional questions, please contact the Synchro program office at info@oceansynchro.io.

Frequently asked questions can be found here:

<https://oceansynchro.io/frequently-asked-questions/>.