

The UTIC Challenge Program

Challenge #1: Workforce Development 2023-2024

Participants Handbook

Publish Date: 29 September 2023

Updated: 24 October 2023

(Current Version)



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1. UTIC OVERVIEW

The mission of the Undersea Technology Innovation Consortium (UTIC) is to foster and support a collaborative environment for commercial, academic, and nonprofit organizations focused on the rapid development of innovative undersea and maritime technologies.

Founded in 2016, UTIC is U.S.-based non-profit organization with over 300 members that leverages research, undersea and maritime community collaboration, and education and workforce development programs to fulfill its mission. More information available at: Underseatech.org.

2. CHALLENGE INTRODUCTION

Overview

The UTIC Challenge has been created to identify innovative solutions to pressing undersea technology challenges through engagement with academia in the United States, United Kingdom, and Australia (AUKUS). Through the UTIC Challenge, UTIC hopes to seed academic investment in the most innovative workforce and supply chain development concepts for future undersea technology growth in defense and commercial environments.

Challenge #1: Workforce Development (2023-2024)

The first UTIC Challenge seeks innovative strategies to strengthen the training environment for either **current/future technologists who develop critical undersea technology** or **manufacturing professionals who build and support undersea technologies**. For this first challenge, participating academic teams will reference a **specific challenge scenario** (below) as the basis to prepare and present training and workforce development strategies either for **innovative technologists** or **focused manufacturers** involved in solving the identified challenge.

3. CHALLENGE REFERENCE SCENARIO (2023-2024)

AUKUS navies have identified the expansion of their portfolio of cutting edge manned and unmanned undersea vehicles as critical to their defense missions. Therefore, they need to coordinate now with their industry partners to train the technologists and manufacturing experts of tomorrow to develop and deploy the next generation of undersea vehicles that will help them maintain undersea superiority. In addition, there are growing commercial needs for undersea vehicles in areas such as environmental surveillance, oil and gas, and wind energy.

4. PARTICIPATING TEAM REQUIREMENTS

Accepted participating teams will be from accredited higher education academic organizations (conferring associate or higher degrees) **or** upper-level (high school) vocational programs in the AUKUS alliance countries, preferably with workforce development, people development, training, vocational training, etc. areas of focus or centers of excellence. Additional team details:

- Each participating team member and the team leader **must be a citizen (naturally born/naturalized) of one of the AUKUS countries.**
- Each team should include at least one professional and/or tenured professor, lab director, project leader or similar professional educational role in their respective institution. This individual will be identified as the team leader.
- Each team must also include students actively seeking an associates, undergraduate, advanced or professional/advanced (high school) vocational degree, or be active in a post-degree research efforts at the institution.
- Each team will have **no less than 3** team members and **no more than 10**. The *ideal team size* is **5 participants** (1 leader, 2 – 4 students).

Special Blended Teams Notes:

- Blended teams from single institutions with campuses in multiple AUKUS countries will be accepted, and *are encouraged*.
- Blended teams from multiple, collaborative academic organizations will also be accepted, as long as the organizations reside in one or more of the AUKUS.
 - UTIC request that blended teams be comprised of members of **no more than 3** academic organizations.

5. APPLICATION REQUIREMENT

Participation in the Workforce Development Challenge is a **2-step process**:

- Teams interested in participating first must complete and submit **a challenge application**. The application can be found online on underseatech.org/challenge.
- Once accepted as a valid participant by UTIC, participating teams will then prepare and submit their Challenge Submission as described below.

6. SUBMISSION GUIDELINES

Participating teams will choose one of the two categories for the challenge:

- 1) Strengthening the training and workforce development environment for *current/future technologists who develop critical undersea technology.*
OR
- 2) Strengthening the training and workforce development environment for *manufacturing professionals that build and support undersea technology applications.*

Based on their choice, participating teams will submit a **position paper** outlining their approach and strategy or strategies to the chosen category to address the scenario challenge. In particular, the position paper will:

- Include high-level **workforce development strategy or strategies**, supported by actionable recommendations to implement the approach. These recommendations could include specific training solutions, potential technology requirements, estimated people support, and any other resources needed to convert the recommended plan into action.
- Be research-based, including references to best practice concepts/approaches/programs, as well as input from a minimum of **3 interviews with AUKUS country industry players**, exploring interviewees' current workforce challenges and future requirements. Interviewees can include any technology, manufacturing, or workforce development leader with experience in maritime and undersea environments.
- **Not exceed 15 content pages in length**, including any non-text designs, diagrams, or images (but excluding references/bibliography).
- Submitted electronically in **PDF format**, emailed to undersea@underseatech.org.

Additional Submission Considerations:

- Workforce development strategy recommendations outlined in the Position Paper submission do not need to be limited to traditional class-room training, and teams are encouraged to explore other hands-on, remote, virtual, etc. techniques and supporting technologies in their paper and recommendation.
- Workforce development strategy recommendations can target any age group, learning path and/or timeframe, and submitting teams are encouraged to consider training solutions and interventions for groups as young as primary learning age groups (e.g., US K-12) up through experienced mid-career learners.
- Participating teams are encouraged to present strategies that cover some or all of the lifecycle of workforce development, including the creation of a workforce pipeline, progressing the workforce through skill development and enabling and assisting them as workers apply skills throughout their career.

7. RECOMMENDED SUBMISSION OUTLINE

Participating teams should organize their submission to best illustrate their overall workforce development strategy and actionable approach they recommend to realize their strategy. The high-level outline below should be followed.

Key Suggested Sections and Descriptions:

- A. **Executive Summary:** A brief description of submission strategy, reasoning and approach, summarizing the impact on Workforce Development challenge scenario.
- B. **Introduction:** Introducing the participating teams overall approach to the Challenge, the teams make-up and rolls, and/or any workforce development or training philosophies they referenced in their submission.

- C. **Research Summary:** Summarizing the team's primary and secondary research findings, and the impact of that research on their recommendations.
- D. **Strategy Overview:** Detailed overview of the Workforce Development strategy they are proposing to address the challenge scenario.
- E. **Execution Approach and Requirements:** Summarizing the elements, steps, and requirements to execute the strategy on populations of workers (or potential workers) that are the focus of the challenge scenario.
- F. **Sustainability Recommendations:** Summarizing recommendations on how to repeat, sustain and scale the recommended strategy and approach across the workforces effected, including any impacts on recruiting new workers, job retention, or re-skilling.
- G. **Success Measurements:** Summarizing the simple/easily measured success metrics for the recommendations.
- H. **Award Usage Summary:** A quick synopsis of how the participating team will use the Challenge scholarship/grant award if they win.
- I. **Conclusion:** Short closing remarks

8. EVALUATION (Updated 17 October)

UTIC staff and partner evaluators will be assessing and evaluating each challenge submission based on three main criteria areas:

Evaluation Category	Evaluation Weighting	Evaluation Category Description
Impact	2.0	Evaluating the scope of the impact of the proposed strategy(ies) in terms of meeting the training needs surrounding the challenge scenario
Creativity and Innovation	2.0	Measuring how the submission incorporated creative thinking and innovative training techniques, and how the submitted team leveraged creative approaches in their training strategy design and implementation plan.
Feasibility and Scalability	3.0	Evaluating the ease at which the solution could be implemented, (including technology, time, costs, support, etc.) as well as scaled for hundreds/thousands of students/trainees in different academic, vocational commercial and/or field training environments.

The submissions will be evaluated by a panel of experts including UTIC staff and others including industry and university/training professionals.

9. AWARDS AND RECOGNITION

UTIC will award at least **one award per challenge category** (a training recommendation for experts to develop undersea tech, and a training recommendation for professional that build undersea tech) in

the sum of at least **\$15000 to the winning team per category**. This monetary award will be for use as *scholarship funding* or *academic program development* at the winning team's academic institution.

Furthermore, UTIC will partner with industry and university/training professionals to review and validate the training designs from the winning team. All technically acceptable applications will be recognized within the UTIC membership, partners and in the media. *UTIC will publish the winning proposals.*

10. TIMELINE

Timeline note: Estimated timing listed here valid as of Handbook publish date. Please check the UTIC Challenge [site](#) for most up to date timing.

- **Stage 1–Participating Team Applications:** During this stage, the Challenge is announced, potential participant teams apply to participate, and the final grouping of participant teams are accepted.
 - Applications must be submitted to UTIC via email.
 - Applicants will be notified by UTIC via email if they are accepted to submit a proposal.
- **Stage 2–Q&A:** In this stage, submission teams may ask clarifying questions regarding the challenge scenario and process.
 - Questions can be submitted to undersea@underseatech.org with *Q&A Submission* in the subject line.
 - Q&A updates will be posted online at www.underseatech.org/challenge.
 - Q&A period ends **November 13, 2023**
- **Stage 3–Submissions:** All participating teams submit final position paper by the end of this stage. All submissions to be received by **5 PM EST, December 15, 2023**
- **Stage 4–Judging & Winners:** During this final stage the judges will provide their evaluation, semifinalists will be announced, and winners in each category will be chosen and announced. Winners to be announced in March 2024
- **Post Award:** All technically acceptable applications will be recognized with the UTIC membership, partners and in the media. UTIC will publish the winning proposals, in March-April 2024

11. SUBMISSION CHECKLIST

To successfully send in a Challenge Submission, teams should:

- **Develop** a compelling position paper submission following the Guidelines outlined in Section 6 above.
- **Organize** the Submission based on the recommendations in Section 7.
- **Format** the Submission and supporting information as a PDF document.

- **Submit** Challenge Submission PDF via email to undersea@underseatech.org, including *Workforce Development Challenge* in the email subject, to be received no later than **5PM EST December 15, 2023**.

12. CONTACT INFORMATION

Contact undersea@underseatech.org with any questions about the Challenge.