

Sustainable Maritime

Industry Connections Activity Initiation Document (ICAID)

Version: 1.0, 1 September 2022

IC22-013-01 Approved by the CAG 12 October 2022

Instructions

- Instructions on how to fill out this form are shown in red. Please leave the instructions in the final document and simply add the requested information where indicated.
- Spell out each acronym the first time it is used. For example, “United Nations (UN).”
- **Shaded Text** indicates a placeholder that should be replaced with information specific to this ICAID, and the shading removed.
- Completed forms, in Word format, or any questions should be sent to the IEEE Standards Association (IEEE SA) Industry Connections Committee (ICCom) Administrator at the following address: industryconnections@ieee.org.
- The version number above, along with the date, may be used by the submitter to distinguish successive updates of this document. A separate, unique Industry Connections (IC) Activity Number will be assigned when the document is submitted to the ICCom Administrator.

1. Contact

Provide the name and contact information of the primary contact person for this IC activity. Affiliation is any entity that provides the person financial or other substantive support, for which the person may feel an obligation. If necessary, a second/alternate contact person’s information may also be provided.

Name: John Prousalidis

Email Address: jprousal@naval.ntua.gr

Employer: National Technical University of Athens

Affiliation: National Technical University of Athens

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

2. Participation and Voting Model

Specify whether this activity will be entity-based (participants are entities, which may have multiple representatives, one-entity-one-vote), or individual-based (participants represent themselves, one-person-one-vote).

Individual-Based

3. Purpose

3.1 Motivation and Goal

Briefly explain the context and motivation for starting this IC activity, and the overall purpose or goal to be accomplished.

The global maritime industry is facing significant challenges in moving towards more sustainable operational practices to align with international sustainable development goals. Maritime is comprised of both shipping and port aspects. IEEE has a number of committees and programs associated with maritime technical issues, each working on specific topical areas in their respective domains. The goal of this Industry Connections activity is to bring together these areas of domain expertise and build a collaborative IEEE community of interest around maritime issues, and investigate opportunities for new standards, reports, events and thought leadership to support these ambitious goals of the maritime industry.

3.2 Related Work

Provide a brief comparison of this activity to existing, related efforts or standards of which you are aware (industry associations, consortia, standardization activities, etc.).

As noted, there are areas of maritime related work within the IEEE. Representatives of these groups will come together in forming the core team for this program. This includes:

IEEE Power & Energy Society Marine Systems Coordinating Committee

Subcommittees

Electric Ships and Marine Platforms Subcommittee

The Electric Ships and Marine Platforms Subcommittee shall coordinate with other committees, societies, and agencies on technical issues relating to commercial and military ships incorporating electric propulsion as well as shipboard and marine platform electric power generation and distribution systems activities.

Marine Wind, Wave, and Tidal Systems Subcommittee

The Marine Wind, Wave, and Tidal Systems Subcommittee shall coordinate with other committees, societies, and agencies on technical issues relating to power generation at sea from wind, wave, and tidal energy.

Marine Transmission and Distribution Subcommittee

The Marine Transmission and Distribution Subcommittee shall coordinate with other committees, societies, and agencies on technical issues relating to marine transmission, distribution and shore connection activities for connecting and interconnecting sea-based and sea-to-shore facilities.

Marine Grounding and Safety Subcommittee

The Marine Grounding and Safety Subcommittee shall coordinate with other committees, societies, and agencies on issues relating to grounding and safety in the marine environment.

Environmental Impact Subcommittee

The Environmental Impact Subcommittee shall coordinate with other committees, societies, and agencies on environmental issues relating to development, operations, maintenance, and decommissioning of marine electric power systems.

Education and Symposia Subcommittee

The Education and Symposia Subcommittee shall interface with academia to (1) encourage research and development activities and foster development of academic marine power systems programs; (2) conduct symposia and conferences, in conjunction with other societies and organizations, to promote the interchange of ideas among the professionals in the communities; and (3) participate in activities which educate the public and promote the value and advantages of power and energy at sea.

Organization and Procedures Subcommittee

The Organization and Procedures Subcommittee shall conduct activities necessary for the operation and support of the Committee. This includes coordinating the review of papers and functioning as the administrative arm of MSCC.

IEEE Oceanic Engineering Society

Industry Applications Society

Marine Industry Subcommittee

The Marine Industry Subcommittee (MIS) provides an opportunity to expand the technical transfer of information and standards between the petroleum industry and the marine industry. The MIS facilitates the use and understanding of the currently issued standards such as IEEE-45 dot series, IEEE 1580 and IEC/IEEE 80005.

IEEE Transportation Electrification Community (TEC)

IEEE TEC includes technical expertise and support towards electrification of ships and ports. In addition to thought leadership, TEC sponsors the IEEE Electric Ship Technologies Symposium.

3.3 Previously Published Material

Provide a list of any known previously published material intended for inclusion in the proposed deliverables of this activity.

IEEE IAS Standards/Working Groups

- 45.1 RP for Electrical Installations on Shipboard - Design
- 45.2 RP for Electrical Installations on Shipboard - Controls and Automation
- 45.3 RP for Electrical Installations on Shipboard - Systems Engineering
- P45.4 RP for Electrical Installations on Shipboard - Marine Sectors and Mission Systems
- 45.5 RP for Electrical Installations on Shipboard - Safety Considerations
- 45.6 RP for Electrical Installations on Shipboard - Electrical Testing
- 45.7 RP for Electrical Installations on Shipboard - Switchboards
- 45.8 RP for Electrical Installations on Shipboard - Cable Systems
- 1566 IEEE Standard for Performance of Adjustable-Speed AC Drives Rated 375 kW and Larger
- 1580 RP for Marine Cable for use on Shipboard and Fixed or Floating Platforms
- 1662 Recommended Practice for Design and Application of Power Electronics in Electrical Power Systems
- P1709 RP for 1 to 35 KV Medium Voltage DC Power Systems on Ships
- P1810 Guide for the Installation of Fire-Rated Cables Suitable for Hydrocarbon Pool Fires for Critical and Emergency Shutdown Systems
- 1826 Standard for Power Electronics Open System Interfaces in Zonal Electrical Distribution Systems Rated Above 100 kW
- P61886.1 Subsea Equipment - Power Connectors, Penetrators and Jumper Assemblies with Rated Voltage from 3 kV ($U_{max} = 3.6$ kV) to 30 kV ($U_{max} = 36$ kV) (Joint with IEC)

80005-1 IEC/ISO/IEEE 80005-1:2012 Utility connections in port – Part 1: High Voltage Shore Connection (HVSC) Systems – General requirements

80005-2 IEC/IEEE 80005-2:2016 Utility connections in port – Part 2: High and low voltage shore connection systems – Data communication for monitoring and control

P80005-3 Utility connections in port – Part 3: Low Voltage Shore Connection (LVSC) Systems – General requirements (Joint with IEC)

3.4 Potential Markets Served

Indicate the main beneficiaries of this work, and what the potential impact might be.

The market served is the international maritime industry, both shipping and ports.

3.5 How will the activity benefit the IEEE, society, or humanity?

Describe how this activity will benefit the IEEE, society, or humanity.

This work will benefit IEEE by building a new maritime community of interest, fostering collaboration across IEEE initiatives, and in support of larger IEEE sustainability initiatives intended to help achieve societal goals for a sustainable future.

4. Estimated Timeframe

Indicate approximately how long you expect this activity to operate to achieve its proposed results (e.g., time to completion of all deliverables).

Expected Completion Date: September 2024

IC activities are chartered for two years at a time. Activities are eligible for extension upon request and review by ICCom and the responsible committee of the IEEE SA Board of Governors. Should an extension be required, please notify the ICCom Administrator prior to the two-year mark.

5. Proposed Deliverables

Outline the anticipated deliverables and output from this IC activity, such as documents (e.g., white papers, reports), proposals for standards, conferences and workshops, databases, computer code, etc., and indicate the expected timeframe for each.

- Launch of IEEE cross-collaborative community of interest in maritime sustainability issues. This will initiative by bringing together existing IEEE committees to share information and develop a work plan in support of IEEE sustainability related support to the maritime industry. Based on the needs and goals identified in the work plan, a follow-on activity to identify and invite external organizations for collaboration in achieving mutually beneficial goals.

- Thought Leadership reports and articles to establish IEEE expertise in the sustainable maritime domain.
- Identification of opportunities to develop proposals for new standards in support of sustainable maritime
- Participation in existing events and/or creation of new events that provide platforms for IEEE thought leadership on maritime sustainability.

5.1 Open Source Software Development

Indicate whether this IC Activity will develop or incorporate open source software in the deliverables. All contributions of open source software for use in Industry Connections activities shall be accompanied by an approved IEEE Contributor License Agreement (CLA) appropriate for the open source license under which the Work Product will be made available. CLAs, once accepted, are irrevocable. Industry Connections Activities shall comply with the IEEE SA open source policies and procedures and use the IEEE SA open source platform for development of open source software. Information on IEEE SA Open can be found at <https://saopen.ieee.org/>.

Will the activity develop or incorporate open source software (either normatively or informatively) in the deliverables? NO

6. Funding Requirements

Outline any contracted services or other expenses that are currently anticipated, beyond the basic support services provided to all IC activities. Indicate how those funds are expected to be obtained (e.g., through participant fees, sponsorships, government, or other grants, etc.). Activities needing substantial funding may require additional reviews and approvals beyond ICom.

This activity anticipates operating with the staff support, tools and services provided by the IEEE SA to Industry Connections programs.

7. Management and Procedures

7.1 Activity Oversight Committee

Indicate whether an IEEE Standards Committee or Standards Development Working Group has agreed to oversee this activity and its procedures.

Has an IEEE Standards Committee or Standards Development Working Group agreed to oversee this activity? No

If yes, indicate the IEEE committee's name and its chair's contact information.

IEEE Committee Name: Committee Name

Chair's Name: Full Name

Chair's Email Address: who@where

Additional IEEE committee information, if any. Please indicate if you are including a letter of support from the IEEE Committee that will oversee this activity.

IEEE collects personal data on this form, which is made publicly available, to allow communication by materially interested parties and with Activity Oversight Committee and Activity officers who are responsible for IEEE work items.

7.2 Activity Management

If no Activity Oversight Committee has been identified in 7.1 above, indicate how this activity will manage itself on a day-to-day basis (e.g., executive committee, officers, etc.).

This activity will be managed by an executive committee based on the Activity Policies and Procedures. It will have a minimum of a chair and vice-chair, with additional committee roles as needed based on the consensus of the group.

7.3 Procedures

Indicate what documented procedures will be used to guide the operations of this activity; either (a) modified baseline *Industry Connections Activity Policies and Procedures* ([entity](#), [individual](#)), (b) *Abridged Industry Connections Activity Policies and Procedures* ([entity](#), [individual](#)), (c) Standards Committee policies and procedures accepted by the IEEE SA Standards Board, or (d) Working Group policies and procedures accepted by the Working Group's Standards Committee. If option (a) is chosen, then ICom review and approval of the P&P is required. If option (c) or (d) is chosen, then ICom approval of the use of the P&P is required.

This activity will be governed using the Baseline Industry Connections Activity Policies and Procedures, for individual based activities.

8. Participants

8.1 Stakeholder Communities

Indicate the stakeholder communities (the types of companies or other entities, or the different groups of individuals) that are expected to be interested in this IC activity and will be invited to participate.

Industry and governmental organizations involved in the operations and management of the shipping industry, maritime system providers, and port operations.

8.2 Expected Number of Participants

Indicate the approximate number of entities (if entity-based) or individuals (if individual-based) expected to be actively involved in this activity.

20-30

8.3 Initial Participants

Provide a few of the entities or individuals that will be participating from the outset. It is recommended there be at least three initial participants for an entity-based activity, or five initial participants (each with a different affiliation) for an individual-based activity.

Use the following table for an individual-based activity:

Individual Name	Employer	Affiliation
John Prousalidis	National Technical University of Athens	IEEE PES Maritime Systems Coordinating Committee
Philip Krein	University of Illinois	IEEE Transportation Electrification Community
Christopher Whitt	JASCO Applied Sciences	IEEE Oceanic Engineering Society
Wei-Jen Lee	University of Texas	IEEE Industry Applications Society
Valter Selen	ESPO	European Sea Ports Organization

Discussions for additional participants in progress with:

- Directorate General of Transport (DGMOVE),
- Directorate General of Energy (DGENER),
- European Commission officers
- European Community Ship Owners Association
- Lloyds’ Register of Shipping (LRS)
- American Bureau of Shipping (ABS)

8.4 Activity Supporter/Partner

Indicate whether an IEEE committee (including IEEE Societies and Technical Councils), other than the Oversight Committee, has agreed to participate or support this activity. Support may include, but is not limited to, financial support, marketing support and other ways to help the Activity complete its deliverables.

Has an IEEE Committee, other than the Oversight Committee, agreed to support this activity? Yes

If yes, indicate the IEEE committee’s name and its chair’s contact information.

IEEE Committee Name:

IEEE Power & Energy Society Marine Systems Coordinating Committee

Chair's Name: Dwight Alexander

Chair's Email Address: Dwight.alexander@ieee.org

The chair of this Industry Connections activity is the vice-chair of the Marine Systems Coordinating Committee. If a letter of support is needed, it will be requested and provided.