



PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY

PROPOSER:

SAC

DATE OF CIRCULATION:

2024-10-26

CLOSING DATE FOR VOTING:

2025-01-18

A proposal for a new field of technical activity shall be submitted to the Office of the CEO, which will process the proposal in accordance with ISO/IEC Directives, Part 1, Clause 1.5.

Furthermore, a proposal will be considered as complete if every information field is complete and follows the guidelines for proposing and justifying a new field of activity given in the ISO/IEC Directives, Part 1, Annex C.

TITLE

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.2)

Ports and Terminals

SCOPE

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.3)

Standardization in the field of ports and terminals, covering planning, implementation, operation, upgrading, demolition and repurposing stages. It will include scheduling, design, controlling, monitoring and inspection, optimization of resource allocating, integrated state-of-the-art technology solutions, regardless of scales, types, or transitioning of goods or passengers, whether located on the coastline or inland rivers, aiming to improve efficiency, effectiveness, coordination, working conditions and professions, towards achieving sustainable development of ports and terminals.

Excluded: Relevant work within the scopes of the following committees:

- Ships and marine technology (ISO/TC 8)
- Production, transport and storage facilities for cryogenic liquefied gases (ISO/TC 67/SC 9)
- Cranes (ISO/TC 96)
- Industrial trucks (ISO/TC 110)
- Tourism and related services (ISO/TC 228)
- Sustainable cities and communities (ISO/TC 268)
- Innovative logistics (ISO/TC 344)

PURPOSE AND JUSTIFICATION (Please use the field immediately below or attach an annex.)

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.13)

According to *Longman Dictionary of Contemporary English*, ports refer to the places where ships can dock, load and unload. A port can include one or more terminals for various purposes, such as container terminals, dry bulk terminals, liquid bulk terminals, passenger terminals, etc.

Based on the statistics from UN, it is estimated that there are about over 3600 registered trade ports. Over 80% of the global trade is made through ports and terminals. The proportion of port service fees to the total global logistics cost is 10%. By 2022, the global port revenue is 1.75 million. The number of direct employees in global ports is 1.6 million, while employees engaged in the ports and terminals related industries are 200 million. Port transport affects more than 2.4 billion people. Obviously, this is a large-scale and influential industry. As pointed out by the World Bank in *The Container Port Performance Index 2023*, “Efficient, high quality port infrastructure can facilitate investment in production and distribution systems, engender expansion of manufacturing and logistics, create employment opportunities, and raise income levels.”

Some ports and terminals perform better than others, when facing the increasingly raising freight volume demands, environmental challenges, and unnecessary running cost. These ports and terminals are featured as following:

- **Enhanced Efficiency and Coordination:** Improved processes that are more efficient, better coordinated, and transparent such as timing arrangements, zoning and allocation, environmental impact assessments, and carbon emission accounting;
- **Integrated Technology Applications:** Implementation of Unmanned, AI and eco-friendly technologies;
- **Diverse Facilities (hardware):** a variety of facilities designed for goods or passengers including stacking yards and passenger boarding bridge.

This proposal will focus on the standardization in the field of ports and terminals, regarding planning, implementation, operation, upgrading, demolition and repurposing stages, aiming to:

- contribute to ISO’s mission “to support global trade, drive inclusive and equitable economic growth, advance innovation and promote health and safety to achieve a sustainable future”, by providing standards of pragmatic and supportive methods for international trade across borders.
- contribute to UN’s SDG9 “Industry, Innovation and Infrastructure”, and comply with the fundamental goal of the WTO in expanding global trade in goods and services, by improving the effectiveness, efficiency and transparency of operations in ports and terminals and reducing the queuing period of ships at ports, which increases the cargo throughput per unit time of the ports.
- achieve net-zero GHG emissions target promoted by ISO/IWA 42, and contribute to UN SDG13 “Climate Action”, by better decreasing energy consumption per unit of cargo handling, which benefits the positive response to the global climate change.
- contribute to UN SDG3 “Good Health and Well-being”, SDG5 “Gender Equality”, SDG8 “Decent Work and Economic Growth”, SDG10 “Reduced Inequalities” and SDG16 “Peace, Justice and Strong Institutions”, by promoting sounding work environment in ports and terminals, and providing more employment opportunities to women and the disabled, which promotes gender equality and social inclusion.

Comparing with the existing TCs or SCs, the new TC proposal will not involve transport and storage facilities for cryogenic liquefied gases at ports within the scope of ISO/TC67/SC9, specific equipment such as cranes within the scope of ISO/TC96 and Industrial trucks within the scope of ISO/TC110, Tourism and related services at yacht ports within the scope of ISO/TC228, the adjacent communities within the scope of ISO/TC 268, and logistics related topics within the scope of ISO/TC 344.

In addition, the new TC proposal focuses on on-shore areas within ports and terminals, both for goods and passengers, and addresses various possible interconnection and transiting matters beyond ISO/TC 8.

PROPOSED INITIAL PROGRAMME OF WORK (Please use the field immediately below or attach an annex)

Please see the [ISO/IEC Directives, Part 1, Annex C.4.4 and C-4.5](#)

For each item, the initial work programme shall define the deliverable type and target dates. The initial work programme shall also assign priorities to the different items.

Generic Standards for the Ports and Terminals

1. Ports and terminals — Vocabulary (IS)
2. Code of ports and terminals (IS)
- 3. Guidelines for lowering the environmental impacts of ports (TS)**
4. Sustainability assessment methods for ports and terminals (PAS)

Standards for Facilities at the Ports and Terminals

1. Guidelines for the design of terminals, e.g., container terminals, coal and ore terminals, etc. (IS)
- 2. Guidelines for port layout and facility configuration (IS)**
3. Technical specification of the stacking yards (TS)

Standards for Operations at the Ports and Terminals

- 1. Operation guidelines for different types of terminals, e.g., container, dry bulk cargo, liquid bulk cargo, etc. (IS)**
2. Guidelines for the preparation of comprehensive dock plans, e.g., berth plans, yard plans (IS)
3. Integrated scheduling strategy, principles, and framework for docks (TS)
- 4. Guidelines for cruise terminal passenger services (IS)**

Standards for Integrated Technologies

- 1. Guidelines for terminal automation transformation of different types of terminals (IS)**
2. Technical specification for unmanned transformation of terminals, e.g., electronic fences, intelligent gates, F5G optical communication technology, etc. (TS)

Note: Priority will be given to the standards in bold fonts, which are anticipated to be officially registered and developed within 3 years of the establishment of the new TC.

RELATION OF THE PROPOSAL TO EXISTING INTERNATIONAL STANDARDS AND ON-GOING STANDARDIZATION WORK

- The proposer has checked whether the proposed scope of the new committee overlaps with the scope of any existing ISO or IEC committee or JTC1 sub-committee

- If an overlap or the potential for overlap is identified, the affected committee has been informed and an agreement has been reached between proposer and committee on
 - i. modification/restriction of the scope of the proposal to avoid overlapping,
 - ii. potential modification/restriction of the scope of the existing committee to avoid overlapping.

- If agreement with the existing committee has not been reached, please explain why the proposal should be approved.

- Have proposals on this subject been submitted into an existing committee and rejected? If so, what were the reasons for rejection?

LISTING OF RELEVANT DOCUMENTS (SUCH AS STANDARDS AND REGULATIONS) AT INTERNATIONAL, REGIONAL AND NATIONAL LEVE

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.6)

1. International Maritime Organization (IMO) Documents

- 1) IMO 597E—1999 Comprehensive Manual on Port Reception Facilities (Second Edition)
- 2) IMO IB290E—2007 Safe Transport of Dangerous Cargoes and Related Activities in Port Areas

2. ISO and IEC Standards

- 1) ISO 28004-2—2014 Security management systems for the supply chain guidelines for the implementation of ISO 28000 Part 2: Guidelines for adopting ISO 28000 for use in medium and small seaport operations
- 2) IEC 60364-7-709—2012 Low-voltage electrical installations – Part 7-709: Requirements for special installations or locations – Marinas and similar locations (Edition 2.1 Consolidated Reprint)
- 3) IEC/ISO/IEEE 80005-1—2022 Utility connections in port—Part 1: High voltage shore connection (HVSC) systems—General requirements
- 4) IEC/ISO/IEEE 80005-2—2016 Utility connections in port—Part 2: High and low voltage shore connection systems - Data communication for monitoring and controls
- 5) IEC/IEEE PAS 80005-3—2014 Utility connections in port—Part 3: Low voltage shore connection (LVSC) systems—General requirements

3. PEMA (Port Equipment Manufacturing Association) Documents

- 1) PEMA IP03 Container Terminal Yard Automation
- 2) PEMA IP12 Container Terminal Automation
- 3) PEMA IP18 Automating Yard Operation in Brownfield Container Terminals: Infrastructure
- 4) PEMA IP17 Collision Prevention at Ports & Terminals
- 5) PEMA IP22 Battery & Charging Solutions in Ports and Terminals
- 6) PEMA BP02 Recommended Minimum Safety Features for Container Yard Equipment

4. PIANC (The World Association for Waterborne Transport Infrastructure) Documents

- 1) MarCom WG Report No.208—2021 Planning for Automation of Container Terminals

5. Member Country Standards.

The U.S. Standards

- 1) ASCE/COPRI 61-14 Seismic Design of Piers and Wharves

The UK Standards

- 1) BS 6349-2—2019 Maritime Works. Code of Practice for the Design of Quay Walls, Jetties and Dolphins

Austrian Standards

- 1) OENORM B 4920-4—2014 Terminals for Transshipments of Goods - Planning - Part 4: Connection to Waterways

Russian Standards

- 1) GOST R 55507—2013 Operation of the River Ports. Terms and Definitions
- 2) GOST R 56244—2014 Inland Water Transport. Cargo Transfer Complexes and Passenger Terminals of River ports. Cargo Handling Machines and Equipment maintenance. Safety requirements

Australian Standards

- 1) AS 3962—2020 Marina design
- 2) AS 3846—2005 The handling and transport of dangerous cargoes in port areas

Brazilian Standards

- 1) ABNT NBR 13209—1994 Harbor Planning - Shoring Works - Procedure
- 2) ABNT NBR 11240—1990 Marine Fenders in docks - Utilization - Procedure

Vietnam Standards

- 1) TCVN 11820-1—2017 Marine Port Facilities. Design Requirements. Part 1: General Principles
- 2) TCVN 11820-2—2017 Marine Port Facilities. Design Requirements. Part 2: Loads and Actions
- 3) TCVN 11820-5—2021 Marine Port Facilities-Design Requirements-Part 5: Wharves
- 4) TCVN 12250—2018 Inland port - Berth Construction - Design Standard

Japanese Standards

- 1) Technical Standards for Port and Harbour Facilities of Japan

Chinese Standards

- 1) GB/T 8487—2010 Terms for cargo handling in port
- 2) GB 11602—2007 The safe rules for handling in container port
- 3) GB/T 27875—2011 Technical requirements for project and heavy lift cargoes handling in port
- 4) GB/T 28399—2012 The safety rules for handling in Ro-Ro terminal
- 5) GB/T 38567—2020 General specification for data interchange in port logistics operation
- 6) GB/T 42809—2023 Technical requirements for automated container terminal operating system
- 7) GB/T 43380—2023 Technical requirements of integrated management and control system for automatic bulk cargo port

LISTING OF RELEVANT COUNTRIES WHERE THE SUBJECT OF THE PROPOSAL IS IMPORTANT TO THEIR NATIONAL COMMERCIAL INTERESTS (Please see the [ISO/IEC Directives, Part 1, Annex C, Clause C.4.8](#))

The subject of the proposal is relevant to countries where ports and terminals have been built and put into operation, which include but not limited to:

- Europe: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Monaco, Netherlands, Norway, Romania, Russian Federation, Spain, Sweden, Switzerland, Ukraine, United Kingdom
- North America: Canada, Costa Rica, Dominican Republic, El Salvador, Jamaica, Panama, United States, Mexico
- South America: Argentina, Brazil, Chile, Colombia, Ecuador, Peru
- Oceania: Australia, New Zealand, Papua New Guinea

- Asia: China, India, Indonesia, Israel, Japan, Singapore, Thailand, Türkiye, the Islamic Republic of Iran, the Republic of Korea, United Arab Emirates, Viet Nam
- Africa: Algeria, Cameroon, Côte d'Ivoire, Djibouti, Egypt, Eritrea, Gabon, Gambia, Kenya, Libya, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Tunisia, Senegal, Sierra Leone, Somalia, South Africa, Tanzania

LISTING OF RELEVANT EXTERNAL INTERNATIONAL ORGANIZATIONS OR INTERNAL PARTIES (OTHER THAN ISO AND/OR IEC COMMITTEES) TO BE ENGAGED AS LIASONS IN THIS WORK

(Please see the ISO/IEC Directives, Part 1, Clause C.4.9)

ISO/TC 8: Ships and marine technology

ISO/TC 67/SC 9: Production, transport and storage facilities for cryogenic liquefied gases

ISO/TC 96: Cranes

ISO/TC 110: Industrial trucks

ISO/TC 228: Tourism and related services

ISO/TC 268: Sustainable cities and communities

ISO/TC 344: Innovative logistics

IEC/TC 18: Electrical installations of ships and of mobile and fixed offshore units

IEC/TC 57: Power systems management and associated information exchange

IEC/TC 65: Industrial-process measurement, control and automation

IEC/TC 72: Automatic electrical controls

IDENTIFICATION AND DESCRIPTION OF RELEVANT AFFECTED STAKEHOLDER CATEGORIES(Please see ISO Connect)

	Benefits/Impacts/Examples
Industry and commerce – large industry	<ul style="list-style-type: none"> ● Port owners and port operators can gain consistency in terms of planning, implementation, operation and upgrading, which will help achieve maximum cargo handling efficiency, enhance the competitiveness and economic benefits of ports and reduce the fragmented application of technical requirements and differences among countries <p>Examples: PSA Saigon Newport Corporation DP WORLD ADANI GROUP Shanghai International Port Group</p>

Industry and commerce – SMEs	<ul style="list-style-type: none"> ● Simplify and standardize the operational processes, file format and technical requirements of port related service providers, reducing delays and additional costs caused by inconsistent operations and improving service levels and customer experience <p>Examples: Search and Rescue Companies Salvage Companies Ships suppliers Agents for goods Agent for ships Maintenance Companies Solution providers</p>
Government	<ul style="list-style-type: none"> ● Governments can regulate the import and export of goods and make informed decisions on resource planning infrastructure construction and maintenance plans more effectively. Besides, the development of ports and terminals can drive local economic growth and bring increased tax revenue <p>Examples: Central and local governments where ports and terminals are located Customs Inspection and Quarantine</p>
Consumers	<ul style="list-style-type: none"> ● Improve the efficiency of loading and unloading operations at ports and terminals to achieve rapid flow of goods and improve the efficiency of logistics enterprises <p>Examples: Logistics enterprises Customers</p>
Labour	<ul style="list-style-type: none"> ● Improve the work environment and occupational safety of workers ● Provide more employment opportunities for women and the disabled <p>Examples: Planners Wharfman Tallymen Drivers Pilots Dispatchers Maintenance personnel of terminal facilities</p>

Academic and research bodies	<ul style="list-style-type: none"> ● Realize the comparability of academic research findings on ports and terminals ● Facilitate conduct cross-border and cross-regional comparative studies for Researchers <p>Examples: The National University of Singapore (NUS) Shanghai Maritime University(SMU) Any institute engaging in researches related to the Ports and Terminals</p>
Standards application businesses	<ul style="list-style-type: none"> ● Application of unified standards can facilitate the exchange and information sharing on technologies, which can effectively mitigate the negative impact of monopoly on market <p>Examples: Stakeholders who are responsible for port design and operation Any organization who applies these standards</p>
Non-governmental organizations	<ul style="list-style-type: none"> ● Fill the gap of existing standards and guidelines developed by organizations like IAPH and PEMA <p>Other examples: PIANC ICHCA</p>
Other (please specify)	N/A

EXPRESSION OF LEADERSHIP COMMITMENT FROM THE PROPOSER

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.12)

China is willing to undertake the work of the new TC Secretariat when the proposal is approved.

- **The proposer confirms that this proposal has been drafted in compliance with iso/iec directives, part 1, annex c**

SIGNATURE OF THE PROPOSER

SAC

COMMENTS OF THE ISO CENTRAL OFFICE(IF ANY)

