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ISO TC 8~~/WG 14~~

DATE: 2023-xx

Secretariat: SAC

Ships and marine technology — Maritime education and training — Maritime career guidance

Navires et technologie maritime — Éducation et formation maritime — Recommandations pour l'orientation dans les métiers de la mer

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Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO ~~documents~~document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see ~~www.iso.org/directives~~www.iso.org/directives).

~~Attention is drawn~~ISO draws attention to the possibility that ~~some of~~ the ~~elements~~implementation of this document may ~~be~~involve the ~~subject~~use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights~~.~~ in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights. ~~Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).~~

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see ~~www.iso.org/iso/foreword.html~~www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*.

This ~~second~~first edition of ISO 24438 cancels and replaces the first edition (ISO/PAS 24438:2020) which has been technically revised.

The main changes are as follows:

— editorial changes throughout the document;

— in ~~Chapter~~Clause 5, added a provision of general information for Tables 1 to 11;

— in Table 9, added a provision of "7. Maritime system and equipment expert".

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at ~~www.iso.org/members.html~~www.iso.org/members.html.

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Introduction

The International Maritime Organization (IMO) has identified a strong need to recruit and retain seafarers globally. This document has been developed to help recruit new maritime professionals and to assist them, as well as existing maritime professionals, to enter and build their career paths for their professional achievement within the international maritime industry. Additionally, it aims to provide professional alternatives and information pertaining to existing maritime industry stakeholders who are faced with career path decisions due to industry evolution, personal circumstances or changes in professional goals in order to adapt to these changes.

The rationale of having a functional career guidance document is to provide a reference for possible occupations in the maritime industry, including minimum education and training requirements for a given occupation so that candidates can take the necessary steps to meet their goals.

Ships and marine technology — Maritime education and training — Maritime career guidance

1 Scope

This document provides a powerful decision-making tool for persons that either have clear professional development goals or uncertainties related to the progression of their career paths, including minimum education and training requirements for many of the maritime-related occupations. It aims to assist candidates to take the necessary steps to meet their goals. This document seeks to assist professionals in (or those who would like to enter) the maritime sector, on board or ashore, in determining their professional goals, establishing how to achieve them through this proactive tool, taking into consideration:

— personal circumstances and academic background;

— previous work experience, knowledge and skills;

— short, medium and long-term ambitions;

— changing education and training requirements resulting from continual industry evolution;

— current and future job opportunities,

— impact of technology, and

— shifting personal interests, attitudes, abilities, and goals.

This document helps identify many of the potential jobs within the maritime industry, on board and ashore, in order to provide alternative career paths.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at ~~https://www.iso.org/obp~~https://www.iso.org/obp

— IEC Electropedia: available at ~~https://www.electropedia.org/~~https://www.electropedia.org/

4 Basic concept of maritime career guidance

4.1 General

The basic concept of this document is shown in Figures 1 to 3, which provide the general categories of many of the careers available in the maritime industry.

4.2 Major fields of employment in the international maritime industry

Figure 1 provides a diagram of many of the major fields of employment in the international maritime industry described in this document.

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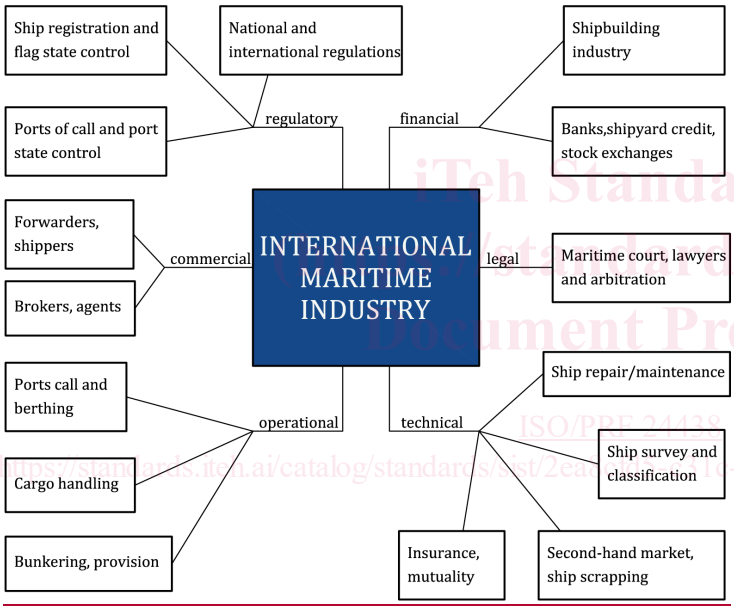

Figure 1 — Major fields of employment in the international maritime industry

4.3 Non-traditional field career paths in the maritime industry

4.3.1 General

This document focuses on many of the traditional employment fields in the maritime industry. It should be noted that there are other paths for employment in the sector. Examples of non-traditional paths for employment include, but are not limited to, those described in 4.3.2 to 4.3.5.

4.3.2 Emerging technologies in support of operations

The evolution of the industry with regard to the operation of ships, the mitigation of ship-generated pollutants/wastes, the increase of efficiency, and other maritime-related technologies has resulted in the need for professionals who are capable of installing and maintaining this type of equipment.

4.3.3 "Hawse pipe" progression

A sea-going career can include starting at a hands-on, entry level position, with a systematic progression of jobs leading to the highest level of employment on a ship. The "hawse pipe" career path allows an individual to learn all of the aspects of the operation of a vessel, from either the deck or engine department standpoint, according to the parameters set forth by national legislation for compliance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)[1], as amended. This path also applies to the catering and hospitality departments according to industry practice.

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4.3.4 Application of computer technologies in all aspects of the maritime industry

Many shipboard elements can now be managed with computers or computer-based applications. There is a need for professionals who are capable of supporting this type of equipment and systems. This trend includes computer-based applications, both on board and ashore, including remote monitoring of on-board equipment.

4.3.5 Military to maritime industry

Military experience and training are also transferable to maritime industry paths, both seagoing and ashore.

4.4 Personal career course charting

A recommended action plan for individual career development is illustrated in Figure 2.

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Figure 2 — Personal career course charting

4.5 Areas of potential employment in the maritime industry

Figure 3 provides a diagram of many areas of potential employment in the maritime industry, some of which are currently addressed in the career guidance described in this document. Information to assist in the selection of alternate employment paths is described in Clause 5.

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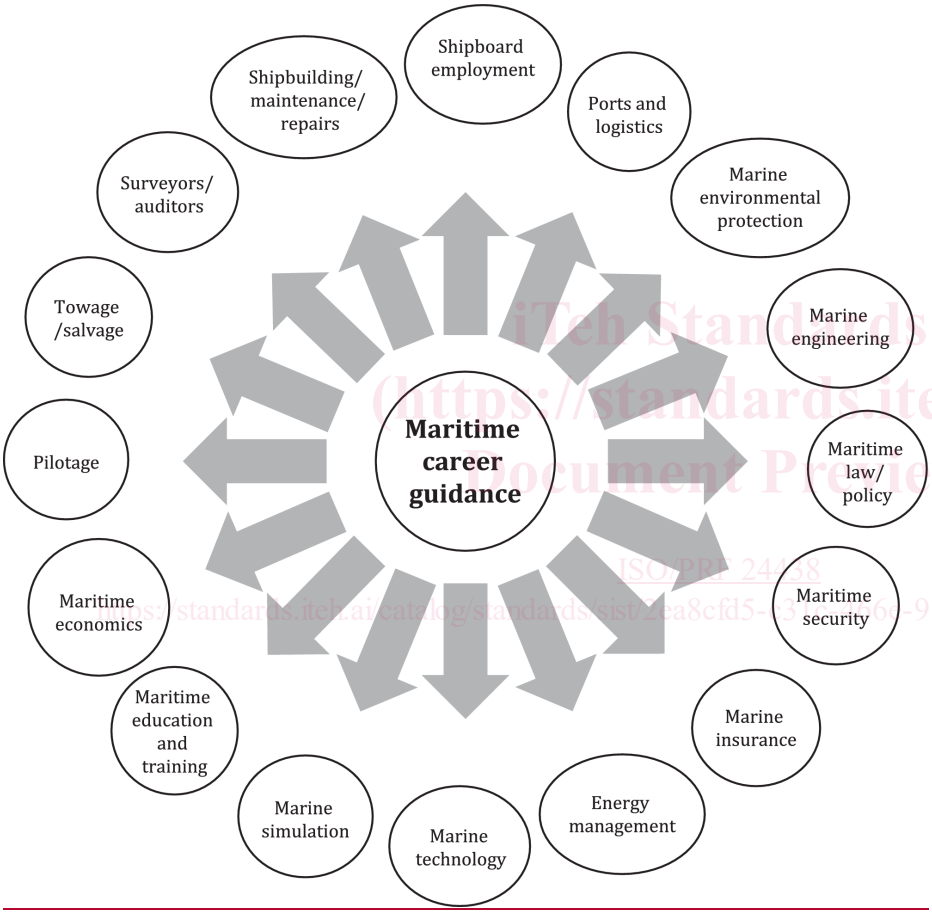

Figure 3 — Examples of areas of potential employment