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**Ships and marine technology —  
Ship software logging system for  
operational technology**



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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

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## 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 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. 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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 11, *Intermodal and Short Sea Shipping*.

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](http://www.iso.org/members.html).

## Introduction

Ships have more and more equipment with updateable software on-board. Current requirements for on-board use of computer-based systems require a software registry for such equipment (IACS URE22rev2), but these registries are not defined, can be difficult to understand and use, and are often not updated. This is partly caused by the increasing quantity of computer equipment and applicable regulations creating additional work for crew, shipping companies and other stakeholders. This situation makes staying current on software updates more difficult, which also introduces increased risks of equipment problems. This document began its development based on a 2017 CIRM-BIMCO industry standard for software maintenance procedures.

This document defines a ship software logging system (SSLS) for shipboard equipment software. Recognizing that maintenance of shipboard software is a major undertaking, this first edition initially sets base characteristics. The SSLS can be used by various users and log data from various types of equipment. It is expected that this document will evolve over time together with related regulations and as experience on the use of the introduced concept accumulates.

This document considers the following:

- cyber risk management is incorporated into the design and use of the SSLS;
- equipment messages pass from the equipment to the SSLS automatically when possible;
- the equipment sends standard version messages with software version information on appropriate time intervals.



# Ships and marine technology — Ship software logging system for operational technology

## 1 Scope

This document defines a ship software logging system (SSLS) for logging and retrieving software version information and current operational status. The system facilitates software maintenance for ship operational technology equipment and associated integrated systems, including but not limited to:

- control and alarm systems;
- fire and water mist systems;
- navigation and communication systems;
- steering control systems;
- propulsion systems;
- power generation systems;
- performance monitoring systems;
- auxiliary systems.

This document sets requirements for the design and usability of a ship software logging system (SSLS) software that:

- records software versions for equipment with updateable software (hereinafter “equipment”);
- sets an initial log entry when equipment is first installed or detected by the SSLS;
- includes a repository of electronic service reports associated with log entries;
- automatically logs reports sent by the equipment.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### category of update

classification assigned to a software update based upon the reason for undertaking the update, which can be any one of the below or some combination:

- initial state;