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Title: Draft BS ISO/IEC 30175 Internet of Things (IoT) - Underwater Acoustic Sensor Network (UWASN) - Underwater Management Information Base (u-MIB)

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



JTC1-SC41/226/CD

COMMITTEE DRAFT (CD)

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SECRETARIAT:

Korea, Republic of

SECRETARY:

Ms Jooran Lee

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

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Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Internet of Things (IoT) - Underwater Acoustic Sensor Network (UWASN) – Underwater Management Information Base (u-MIB)

NOTE FROM TC/SC OFFICERS:

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INTERNET OF THINGS – UNDERWATER ACOUSTIC SENSOR NETWORK (UWASN) – UNDERWATER MANAGEMENT INFORMATION BASE (u-MIB)

FOREWORD

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International Standard ISO/IEC XXXX was prepared by subcommittee 41: Internet of Things and related technologies, of ISO/IEC joint technical committee 1: Information technology.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
XX/XX/FDIS	XX/XX/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,

- replaced by a revised edition, or
- amended.

The National Committees are requested to note that for this document, the stability date is 20XX..

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

INTRODUCTION

Water covers approximately 70 % of the surface of the Earth. Modern technologies introduce new methods to monitor the body of water, such as pollution monitoring and detection. Underwater data gathering techniques require exploring the water environment, which can be most effectively performed by underwater acoustic sensor networks (UWASNs). Applications developed for the UWASNs can record underwater climate, detect and control water pollution, monitor marine biology, discover natural resources, detect pipeline leakages, monitor and find underwater intruders, perform strategic surveillance, and so on.

To build and apply the UWASN technology, most suitable methods for managing the network have been developed based on the ISO/IEC 30140 series. This document describes the network management outline and requirements appropriate to the UWASN under the constraints of an underwater physical environment.

The ISO/IEC 30142 provides the information such as requirements of an underwater network management system (U-NMS), functions supporting U-NMS, and components required for U-NMS in UWASN.

This document provides the underwater management information base (u-MIB) for the underwater network management system (U-NMS).

Various technical standards derived from the R&D results of the technical areas under the UWASN and underwater communication fields not covered by the ISO/IEC 30140 series are continuously proposed and developed.

INTERNET OF THINGS – UNDERWATER ACOUSTIC SENSOR NETWORK (UWASN) – UNDERWATER MANAGEMENT INFORMATION BASE (u-MIB)

1 Scope

This document provides the underwater management information base (u-MIB) of the underwater network management system (U-NMS). It specifies the following:

- general requirements for constructing u-MIB in U-NMS;
- designing the managed objects of the manager and agent u-MIB;
- integrating the managed objects of the manager and agent u-MIB.

2 Normative references

ISO/IEC 30142, *Internet of Things (IoT) – Underwater Acoustic Sensor Network (UWASN) – Network management system overview and requirements*

3 Terms and definitions

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

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

U-NMS

It is the application installed in the system used for the management of networks and devices in underwater.

3.2

MO

It is defined as the object or resource in u-MIB.

3.3

MOs

It is the object or collection of objects stored in the underwater management information base (u-MIB). The managed objects (MOs) can be accessed using the object identifier (OID).

3.4

Management protocol

It is used for carrying information between the manager and agent in U-NMS.

3.5

TABLES

It is the type, that holds a collection of information related to underwater networks and underwater devices. For example, the notification record.

3.6

OBJID

It is the type, that holds the unique identity of each managed object.

4 Abbreviated terms

MO	Managed object
MOs	Managed objects
MIB	Management information base
OID	Object identifier
u-MIB	underwater management information base
U-NMS	underwater network management system
UWA-GW	underwater acoustic gateway
UWA-CH	underwater acoustic cluster head
UUV	unmanned underwater vehicle
UWA-SNode	underwater acoustic sensor node

5 u-MIB overview and basic concepts

5.1 u-MIB definition

Underwater management information base (u-MIB) is a database specifically designed for managing the elements or entities in the underwater network management system (U-NMS). Figure 1 shows the elements of U-NMS where u-MIB is included. The u-MIB is included in the elements such as a manager and an agent.

- In U-NMS, the manager is the program installed in the devices to control the whole functions of underwater networks.
- The agent is the program that is bundled inside the underwater devices such as UWA-GW, UWA-CH, UUV, UWA-SNode, etc.
- Management protocol defines the format of a packet exchange between a manager and an agent in U-NMS.
- u-MIB creates the collection of managed objects (MOs) that uses the structured format for defining the name and objects which are accustomed to U-NMS.

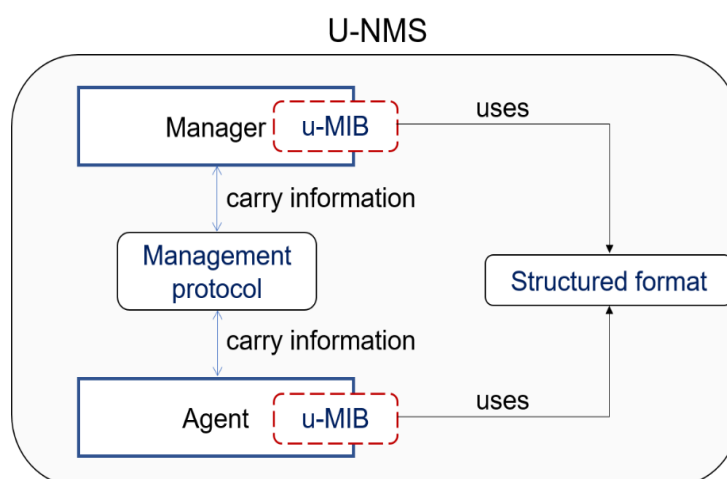


Figure 1 – Elements of u-MIB in U-NMS