SLOVENSKI STANDARD
oSIST prEN IEC 63430:2024

01-julij-2024

Shranjevanje podatkov za nosljivi senzor

Data container for wearable sensor

Conteneur de données pour capteur prêt-à-porter

Ta slovenski standard je istoveten z: **prEN IEC 63430:2024**

ICS:

35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry
59.080.80	Inteligentne tekstilije	Smart textiles

oSIST prEN IEC 63430:2024 **en,fr,de**

100/4141/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 63430 ED1**	
DATE OF CIRCULATION: **2024-05-10**	CLOSING DATE FOR VOTING: **2024-08-02**
SUPERSEDES DOCUMENTS: **100/3949/CD, 100/4038A/CC**	

IEC TA 18 : MULTIMEDIA HOME SYSTEMS AND APPLICATIONS FOR END-USER NETWORKS

SECRETARIAT: Japan	SECRETARY: Mr Keisuke Koide
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 124,SyC AAL	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

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.

Recipients of this document are invited to submit, with their comments, notification of any relevant “In Some Countries” clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

Data Container for Wearable Sensor

PROPOSED STABILITY DATE: 2030

NOTE FROM TC/SC OFFICERS:

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DATA CONTAINER FORMAT FOR WEARABLE SENSOR

FOREWORD

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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

International Standard IEC XXXXX has been prepared by Technical Area 18: Multimedia home systems and applications for end-user networks, of IEC Technical Committee 100: Audio, video and multimedia systems and equipment.

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

FDIS	Report on voting
100/XX/FDIS	100/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.

The language used for the development of this International Standard is English.

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

TC100 is developing International Standard (IS) define container format for sensing data and its system requirements.

This IS captures the results the work of TC100 Technical Area 18 on multimedia home systems and applications for end-user networks. The document reflects contributions and discussions by TC100 experts, mirror committees, liaison members. This IS contains material gathered from reports and group output from the TC100 meetings in May 2019 (London), October 2019 (Shanghai), October 2020 (Online), May 2021 (Online) as well as information obtained during various web meetings.

This document is also positioned as a result of the activities of a collaboration framework between TC100, IEC SyC. AAL and TC124. At the IEC General Meeting in Busan in 2018, three Committees related to wearable systems and technologies, SyC. AAL, TC 100 and TC 124 had a joint workshop and agreed to collaborate for developing relevant standards and to have their role sharing. This collaboration agreement was advanced to a Joint Advisory Group (JAG) and the JAG was established managed by SyC. AAL in 2019.

The target audience for the IS include the following stakeholders who have an interest in the systems and services using wearable devices:

- Consumer Electronics (CE) and Information Communications Technology (ICT) device manufacturers.
- System integrators who want to utilize wearable device and technologies.
- Service operators who are interested in the IoT and multimedia systems and services.
- Stakeholders who want to understand the technologies and requirements for wireless connectivity between wearable sensor nodes and hub coordinator.

DATA CONTAINER FORMAT FOR WEARABLE SENSOR

1. Scope

This International Standard (IS) specifies container format for sensing data and its system requirements. This IS applies to edge computing devices such as smartphone, home gateway, multimedia coordinator etc. and cloud systems.

This document describes the following technical specifications;

- Container format for wearable sensor data,

- Schema Repository that defines parameter and syntax of sensor data,

- Communication and system requirements between edge computing device and Schema Repository.

2. Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[1]

3. Terms and definitions

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

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

3.1
Container
data structure that encapsulates one or multiple numbers of digital data. Each digital data consists of various kinds of data such as sensor signals, audio signals, video signals, metadata, programs, etc.

3.2
Schema Information
structural information that represents the data structure of a Container payload

3.3
Schema Repository
server that stores Schema Information

4. Abbreviated terms

BAN	Body area network
CRC	Cyclic redundancy check
FEC	Forward error correction
GTIN	Global trade item number
IANA	Internet assigned numbers authority
ID	Identifier
IoT	Internet of Things
MAC	Medium access control
RS	Reed Solomon
UUID	Universal unique identifier

5. System structure

5.1 System overview

Sensing data detected by wearable sensors (e.g. vital sensors, environmental sensors, etc.) is transmitted from wearable sensors to edge computing devices (e.g. wearable signal aggregators, smartphones, etc.) through BAN(e.g. SmartBAN [1],[2]), Bluetooth [3] and other short range communications. Figure 1 shows a diagram in which (1) SmartBAN hub and (2) Bluetooth client are installed in one (3) edge computing device for convenience. In reality, either (1) SmartBAN or (2) Bluetooth client may be installed. The sensing data collected by either wireless method is encapsulated into a container as a function of (3) edge computing device. Then, the container is transferred to an (4) IoT platform located in a cloud. When formatting the data collected by (1) SmartBAN hub or (2) Bluetooth client into a container in (3) edge computing device, the edge computing device can obtain the header configuration and payload information how to encapsulate the sensing data into the container from (5) Schema Repository if the edge computing device does not have any pre-set header configuration nor payload information for the above-mentioned wearable sensors.

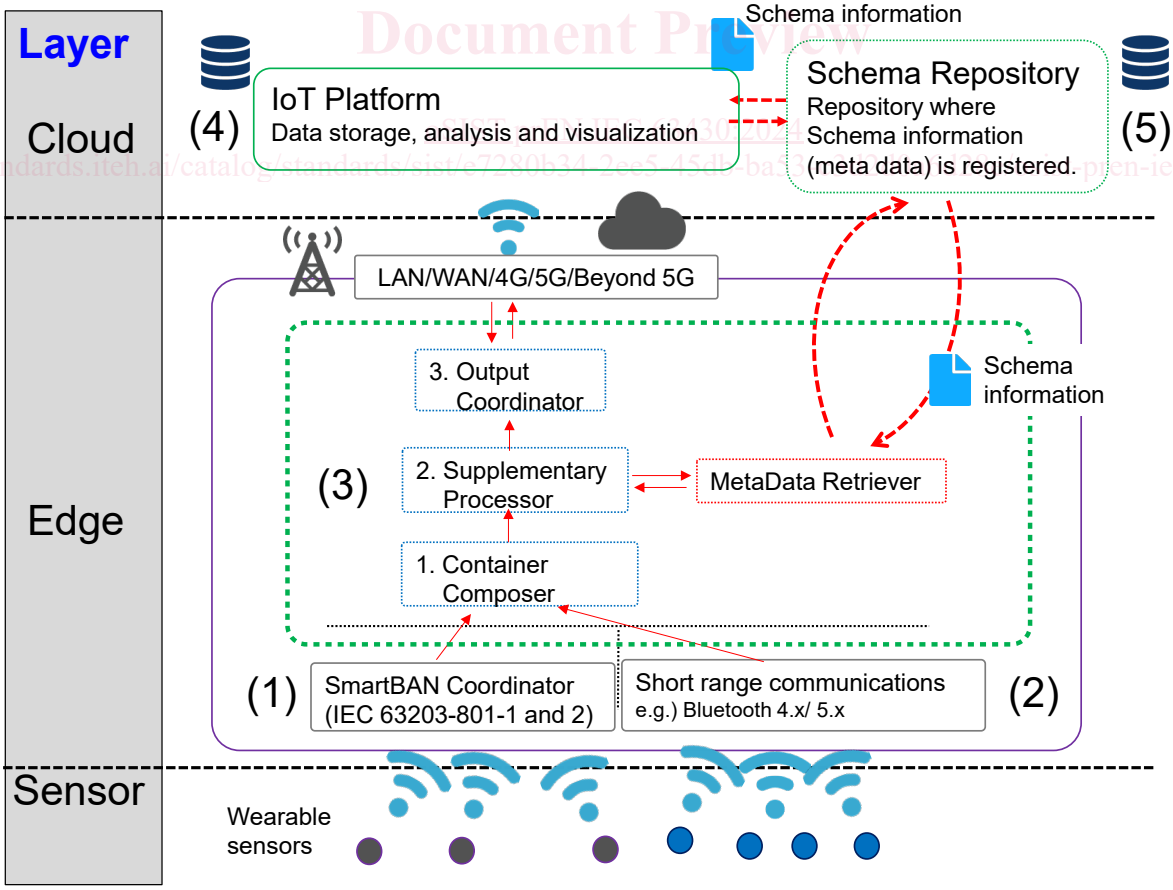

Figure 1– System overview