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SYSTEMS REFERENCE DELIVERABLE

colour inside

Active assisted living (AAL) use case standards inventory and mapping

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ACTIVE ASSISTED LIVING (AAL) USE CASE STANDARDS INVENTORY AND MAPPING

FOREWORD

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IEC SRD 63473, which is a Systems Reference Deliverable, has been prepared by IEC systems committee AAL: Active Assisted Living.

The text of this Systems Reference Deliverable is based on the following documents:

Draft SRD	Report on voting
SyCAAL/332/DTS	SyCAAL/338/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Systems Reference Deliverable is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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- withdrawn, or
- revised.

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INTRODUCTION

IEC systems committee Active Assisted Living (SyC AAL) was formed to develop solutions to help AAL users of any age to live independently for as long as possible. AAL International Standards provide guidance for systems to be developed to ensure independent living. AAL develops systems based on the criteria of individual use cases. AAL systems are compilations of components, systems, and services from multiple vendors and service providers and contain a large variety of hardware and software systems, including medical devices, wellness devices, network hubs, IT systems, home monitoring devices, smart home technology, etc.

The task of AAL is to develop standards considering products, services, systems, safety, security, privacy, usability, accessibility, performance, and interoperability.

This document describes the process of identifying, compiling, and maintaining an inventory of international standards applicable to AAL systems. This document also describes the process of mapping international standards to individual use cases and identifying any gaps in the coverage of these international standards.

ACTIVE ASSISTED LIVING (AAL) USE CASE STANDARDS INVENTORY AND MAPPING

1 Scope

The purpose of this document is to describe the process of building an inventory of international standards based on use cases, mapping these international standards to individual use cases, and providing a visual representation in the IEC mapping platform.

This document identifies the main categories of international standards applicable to AAL systems and applies these international standards to AAL components and the complete AAL system.

Although there are national and regional standards that can address parts of AAL systems, this document will focus only on standards developed at the international level (e.g., IEC, ISO, ITU-T).

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:

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

3.1
AAL
active assisted living
DEPRECATED: ambient assisted living
concepts, products, services, and systems combining technologies and social environment with the aim of improving the quality of people's lives

[SOURCE: IEC 60050-871:2018, 871-01-02]

3.2
AAL application
AAL application and services
program or application that interacts with the AAL users or within the network infrastructure to transmit or exchange data and information in the network

[SOURCE: IEC 63240-1:2020, 3.1.4]

3.3
AAL architecture model
view of the AAL reference architecture with the main purpose of allowing for use case mapping and for conducting standards gap analysis

[SOURCE: IEC 60050-871:2023, 871-07-05]

3.4
AAL care recipient
person who receives and consumes AAL care services

Note 1 to entry: The concept denoted by the term "AAL user" (IEV 871-02-05) includes a wider range of people, including people who do not necessarily require AAL care services.

[SOURCE: IEC 60050-871:2018, 871-02-08]

3.5
AAL component
active assisted living component
object that, individually or in combination with accessories or software, contributes to the proper functioning of a manufacturer-defined application of an AAL system for the assisted compensation for persons with health problems

Note 1 to entry: All AAL components contribute to

– detection, prevention, monitoring, treatment or amelioration of diseases, illnesses and injuries,
– examination, replacement or alteration of anatomical structure or a physiological movement,
– facilitation of daily-life activities, improvement of facilities and enhancement of opportunities for self-determination.

[SOURCE: IEC 60050-871:2018, 871-04-02]

3.6
AAL device
device (IEV 151-11-20) used in an AAL system

EXAMPLE Examples are sensors and actuators that contain one or more components (functionality).

Note 1 to entry: External conditions and events include measurements of temperature, motion, and electrical conditions.

Note 2 to entry: There are 1) medical devices (IEV 871-06-06), as defined by regulatory agencies, 2) personal health devices and sensors (IEV 871-04-29) for fitness, wellbeing, personal comfort, and personal security and 3) devices that can serve as aggregators of personal data produced by the user of the device.

[SOURCE: IEC 60050-871:2018, 871-07-01, modified – IEV references for the terms "device" and "medical device" added.]

3.7
AAL gateway
gateway functional unit that connects two computer networks with different network architectures and protocols

Note 1 to entry: The computer networks may be local area networks, wide area networks, or other types of networks.

Note 2 to entry: Examples of gateways are a LAN gateway, a mail gateway.

[SOURCE: IEC 60050-732:2010, 732-01-17]

3.8
AAL information system
collection of technical and human resources that provide the storage, computing, distribution, and communication for the information required by an AAL service (871-01-04)

[SOURCE: IEC 60050-871:2023, 871-07-02, modified – Note to entry omitted.]

3.9
AAL level of assistance
designation indicating the degree of assistance needed by an AAL care recipient

Note 1 to entry: There are four AAL levels of assistance:

Level 0 – Independent: able to live independently with minimal assistance.

Level 1 – Some assistance: able to live independently but some assistance is needed occasionally (not on a permanent basis).

Level 2 – Assistance with IADL: level of assistance that involves physical/social/cognitive skills related to independent living in addition to ADL. This may include transportation, communication (i.e. use of telephone, e-mails), shopping, meal preparation, housekeeping, managing medications and managing personal finances.

Level 3 – Assistance with ADL: level of assistance that includes basic human activities like walking and moving around, going up a few steps, bathing (plus eating, clothing, continence, grooming).

[SOURCE: IEC 60050-871:2023, 871-07-03]

3.10
AAL platform backend system
AAL backend system
system that houses a number of components (and functionalities) in order to collect the data from AAL gateways or AAL devices directly over a wide area network connection, and that can also implement components for the remote management of the AAL gateways or AAL devices (e.g. firmware update) and components for interfacing with AAL information systems or other-information systems

[SOURCE: IEC 60050-871:2023, 871-07-04]

3.11
AAL reference architecture
model that defines concepts and provides generic rules for designers of AAL systems and services with the aim to facilitate system design and enable interoperability between components

[SOURCE: IEC 60050-871:2023, 871-07-09]

3.12
AAL service
active assisted living service
action or function of an AAL system creating an added value for customers

EXAMPLE An AAL service could comprise, for example configuration and maintenance of AAL systems, assistant systems to support the home environment.

Note 1 to entry: An AAL service can consist of several individual services.

[SOURCE: IEC 60050-871:2018, 871-01-04]