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Edition 1.0 2022-02

SYSTEMS REFERENCE DELIVERABLE

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Active assisted living (AAL) system development guidance for AAL service providers

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ACTIVE ASSISTED LIVING (AAL) SYSTEM DEVELOPMENT GUIDANCE FOR AAL SERVICE PROVIDERS

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IEC SRD 63219, which is a Systems Reference Deliverable, has been prepared by IEC systems committee Active Assisted Living.

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

Draft SRD	Report on voting
SyCAAL/247/DTS	SyCAAL/257/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/standardsdev/publications.

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- replaced by a revised edition, or
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INTRODUCTION

AAL systems can comprise a compilation of components, systems, and services from multiple vendors and service providers. It is important that the parts of an AAL system are compatible in terms of safety, usability, accessibility, performance, and interoperability. It is also important that the security and privacy of the AAL user is protected.

This document provides guidelines for the design of AAL systems to ensure that the AAL systems are designed and developed to be compatible with and to meet the needs of the AAL user.

This document is intended for AAL service providers and AAL service organizations responsible for using, installing, and supporting AAL systems.

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ACTIVE ASSISTED LIVING (AAL) SYSTEM DEVELOPMENT GUIDANCE FOR AAL SERVICE PROVIDERS

1 Scope

This document provides guidance for AAL service providers to design, procure, implement, and maintain AAL systems throughout their service life.

The objective is to ensure that AAL systems are designed, configured, and installed to meet the needs of the AAL user and the requirements from applicable industry standards and global regulations. Ultimately, however, users of this document are responsible for checking the applicable laws and regulations.

This document is intended for use by persons and organizations acting within an AAL service organization such as employees, contractors, and consultants and those working with external AAL technology vendors, as appropriate.

This document provides guidance on ensuring that AAL systems meet the needs of the AAL service user, in terms of safety, security, privacy, usability, accessibility, performance and interoperability.

This document provides guidance to supplement the AAL service organization's established policies and procedures.

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2 Normative references

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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.

IEC TS 63134:2020, *Active assisted living (AAL) use cases*

3 Terms and definitions

For the purposes of this document, the terms and definitions in given in IEC TS 63134:2020 and the following 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
AAL
active 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, modified – The deprecated term "ambient assisted living" has been omitted.]

3.2
AAL service organization
organization responsible for ensuring that the AAL system meets the needs of the AAL user

Note 1 to entry: An AAL service organization comprises AAL service provider employees, contractors, agents, and healthcare consultants responsible for using, installing, and supporting AAL systems.

3.3
residual risk
risk remaining after risk reduction measures have been implemented

[SOURCE: ISO/IEC Guide 51:2014, 3.8]

3.4
validation
confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled

[SOURCE: ISO 9000:2015, 3.8.13, modified – Notes to entry have been omitted.]

3.5
verification
confirmation, through the provision of objective evidence, that specified requirements have been fulfilled

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[SOURCE: ISO 9000:2015, 3.8.12, modified – Notes to entry have been omitted.]

3.6
service life
the period from initial operation to final withdrawal from service of a structure, system, or component

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[SOURCE: IEC 60737:2010, 3.6, modified – Note to entry has been omitted.]

4 AAL service organization responsibilities

The AAL service organization is responsible for:

a) developing or reviewing the AAL system specification based on the AAL system development process as described in Clause 5;

NOTE The AAL system can be designed by an entity that is not part of an AAL service organization.

b) designing/developing/implementing the AAL system;

c) validating that the system meets the needs of the AAL user as described in Clause 6;

d) verifying that the system meets the AAL system requirements as described in Clause 7;

e) developing policies and procedures and obtaining the applicable approvals specific to the implementation of an AAL system as described in Clause 9;

f) Maintain the AAL system throughout its service life.

5 AAL system development process

5.1 General

AAL systems are developed with consideration of representative use case analysis, AAL architecture, international and industry standards, and regulatory requirements as fundamental inputs together with consideration of AAL user needs and the environment of use as shown in Figure 1.

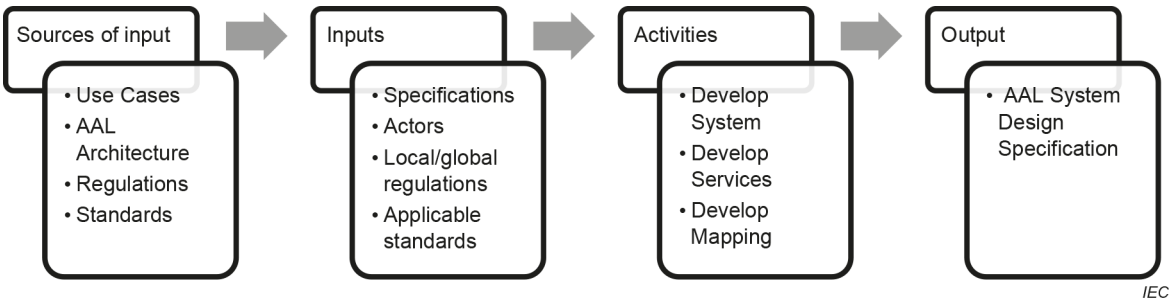

Figure 1 – AAL system design progression (inputs to output)

5.2 Use cases

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AAL use cases are based on real-world applications. The use case development process is described in detail in IEC TS 63134. To summarize the process described in IEC TS 63134, use cases are developed based on the needs of an AAL user considering levels of criticality (major, moderate, minor) and required levels of assistance (level 0 to level 3) in the areas of:

– Prevention and management of chronic long-term conditions;
– Social interaction;
– Mobility;
– Health and wellness;
– Management of daily life activities.

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Use cases specify AAL user requirements and identify the elements of an AAL system. User requirements include:

– Context (environment) of use – global, public buildings, personal mobile phone, personal vehicle, home, body and personal, workspace;
– System component level – AAL devices, (platform) backend system, applications, services, and AAL information systems;
– Actors – person, technical component, or organization.

NOTE 1 Refer to IEC 60050-871 for context of use definitions.

NOTE 2 Refer to IEC TS 63134 for more detailed information of the user requirements in the dashed list above.

A use case example is shown in Figure 2.