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Functional performance criteria for AAL robots used in connected home environment

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FUNCTIONAL PERFORMANCE CRITERIA FOR AAL ROBOTS USED IN THE CONNECTED HOME ENVIRONMENT

FOREWORD

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IEC 63310 has been prepared by IEC SyC AAL: Systems Committee on Active Assisted Living. It is an International Standard.

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

Draft	Report on voting
SyCAAL/375/FDIS	SyCAAL/379/RVD

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 International Standard 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.

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

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

The purpose of this document is to consider the needs and characteristics of an active assisted living (AAL) user and to integrate these into the development, design and evaluation of an AAL robot for use in the connected home environment (CHE).

With the increase of the global population aging, it is going to be increasingly difficult for family members or healthcare workers to adequately undertake home care duty. Personal service robots could be an option for addressing the resulting bottleneck in daily life and health care by supporting the independent living of the AAL user in their connected home environment. From a market perspective, global sales of robots have been increasing in recent years and this is expected to continue in the future. More and more autonomous robotic systems have been used widely by consumers in the home environment, especially in the AAL connected home environment (CHE). However, the gap analysis of standards shows that the current robots' functional performance standards do not focus on the characteristics and needs of the AAL user.

It is within the scope and responsibility of IEC SyC AAL to consider the needs and characteristics of the AAL user and to integrate these into AAL standardization work.

This document will make it possible to recognize and define AAL robots’ function and performance and specific technical requirements in the CHE. This document will provide criteria and guidelines for the products design, testing and certification, and help to improve the quality of the robot products. AAL robots can be subject to additional relevant regulations and standards.

As a result, by providing AAL robots to the market that are in accordance with this document, the following benefits will be achieved:

- assist the AAL users (including AAL care recipients) to live more independently in their homes;
- increase AAL robots’ market acceptance;
- facilitate AAL robots’ industry scale acceptance.

FUNCTIONAL PERFORMANCE CRITERIA FOR AAL ROBOTS USED IN THE CONNECTED HOME ENVIRONMENT

1 Scope

This document deals with the functional performance criteria and guidelines for robots intended for use in the active assisted living connected home environment (AAL CHE).

This document does not cover safety requirements of robots.

This document is applicable to robots which provide the AAL user (or AAL care recipient) with one or more of the following services and support in the AAL CHE:

– information and data management;
– monitoring service;
– communication support;
– activity support;
– mobility support;
– other support.

AAL robots can be subject to additional relevant regulations and standards.

This document is not applicable to robots used for medical purposes.

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.

IEC 60050-871, *International Electrotechnical Vocabulary – Part 871: Active Assisted Living (AAL)*, available at https://www.electropedia.org