ISO/IEC 14763-5

Edition 1.0 2025-04

INTERNATIONAL STANDARD

Information technology – Implementation and operation of customer premises cabling –
Part 5: Sustainability

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 35.200; 13.020.20

ISBN 978-2-8327-0382-3

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Part 5: Sustainability

FOREWORD

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ISO/IEC 14763-5 has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology. It is an International Standard.

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

Draft	Report on voting
JTC1-SC25/3302/FDIS	JTC1-SC25/3313/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, available at www.iec.ch/members_experts/refdocs and www.iso.org/directives.

A list of all parts in the ISO/IEC 14763 series, published under the general title *Information technology – Implementation and operation of customer premises cabling*, can be found on the IEC website.

INTRODUCTION

Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. It has three main pillars: economic, environmental, and social. Although there appears to be no recorded origin of this concept, true sustainability is generally recognized as being where the three pillars (objectives) overlap.

Focusing on sustainability, it is widely recognized that generic cabling in accordance with ISO/IEC 11801 standards is intended to provide the user with an information technology infrastructure, to support both wired and wireless solutions, with extended life expectancy.

IT cabling systems are not only defined to transport data. They are more and more used for remote powering. Therefore, energy efficiency and power loss are becoming an important aspect of sustainability during operation.

As highlighted in the Introduction of many standards in the ISO/IEC 11801 series (e.g. ISO/IEC 11801-2), "*life expectancy of generic cabling systems can vary depending on environmental conditions, supporting applications, aging of materials used in cables, and other factors, such as access to pathways (campus pathways are more difficult to access than building pathways)"* and *"a lack of design foresight, the use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten quality of service and have commercial consequence for all types of users*".

Those purchasing cabling infrastructures, and the interconnected information technology equipment, seek solutions which meet their business, technical and social objectives.

Commercial pressures can result in a reduction of environmental sustainability of the cabling infrastructure by forcing imminent requirements to take priority over strategic planning resulting in short-term decisions being taken regarding design, installation and quality assurance of the cabling infrastructure. In such cases, design choices can be made which, while reducing initial installation costs, can frequently incur medium- to long-term losses due to substantial repair and maintenance costs. There are numerous cases in which the standards have not been complied with even if they are understood, which results in a reduction of sustainability.

To support the long-term viability of the infrastructure, the skill levels of those involved in the design and installation process are addressed by improving:

- the definition of the necessary skill sets to support the application of ISO/IEC 14763-2 and associated standards rather than relying on proprietary knowledge and specifications used by individual companies:
- The clarity of these defined skill sets to support the training and employment of skilled workers;
- the understanding of the cabling design and installation standards along with how they balance the sustainability pillars;
- the selection, use, and support of equipment needed in the cabling lifecycle, including for test and maintenance purposes.

Recognizing that elements of the cabling infrastructure and information technology equipment will likely be replaced during their lifetime, a reduction of both the impact of material usage and of disruption of services provided by the cabling infrastructure is pursued.

This document is intended for all the following stakeholders of cabling systems:

supplier: cabling component and infrastructure supplier;

owner: building owner and manager;

operator: operator of information technology cabling installations;

constructor: designer, installer of information technology cabling installations;

user: user of information technology cabling installations;

educator: organization delivering training to improve the skill sets of designers, installers and users of information technology cabling installations.

Figure 1 shows a schematic relationship between the general procedure for installing the sustainable cabling system and the contents of each clause of this document.

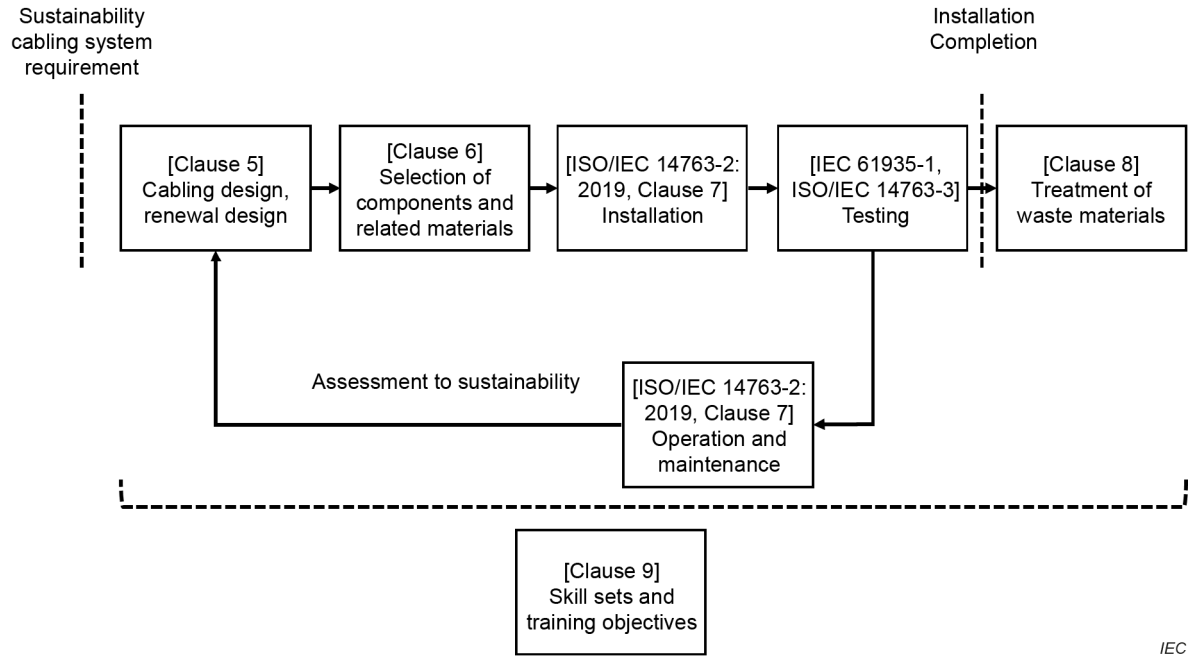

Figure 1 – Schematic representation of cabling standards in system lifecycle

This document is one of several documents prepared in support of international standards and technical reports for cabling design produced by ISO/IEC JTC 1/SC 25. Figure 2 shows the inter-relationship between these standards and technical reports.

Users of this document should be familiar with the applicable cabling design standard of the ISO/IEC 11801 series and ISO/IEC 14763-2.

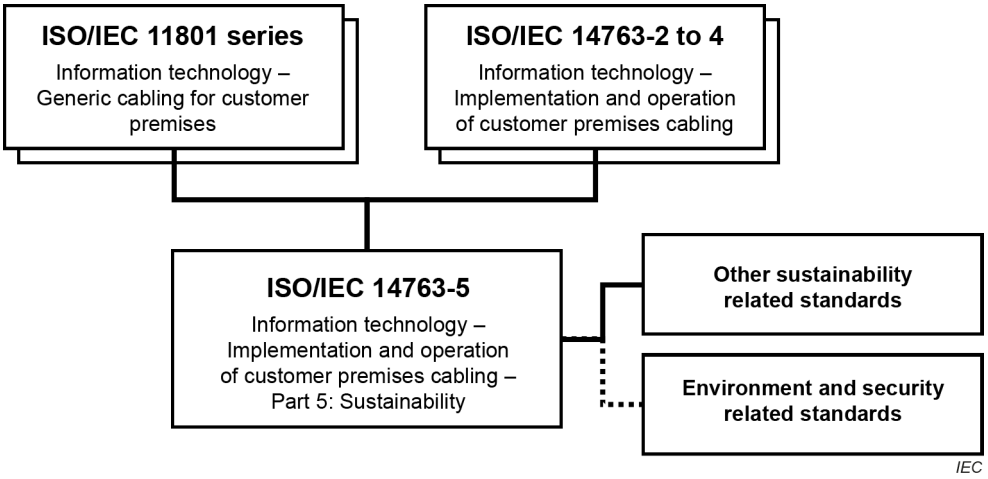

Figure 2 – Schematic relationship between ISO/IEC 14763-5 and other relevant standards

NOTE Telecommunications and cabling infrastructure affects raw material consumption. The cabling infrastructure design and installation process can influence the product life and sustainability of the system. It is important to research local building practices for a sustainable environment and conservation of fossil fuels.

INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 5: Sustainability

1 Scope

This document specifies requirements and recommendations to maximize the sustainability of cabling systems including both customer premises infrastructure and the accommodation of information technology equipment by addressing the

a) cabling design;

b) selection, packaging and transportation of components and related materials;

c) installation, operation and maintenance;

d) management of waste materials;

e) skill sets necessary for designers, installers and users.

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 TR 62839-1, *Environmental declaration – Part 1: Wires, cables and accessory products – Specific rules*

ISO/IEC 14763-2:2019, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*

ISO/IEC TS 29125, *Information technology Telecommunications cabling requirements for remote powering of terminal equipment*

ISO 11014, *Safety data sheet for chemical products Content and order of sections*