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INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 2: Planning and installation

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This second edition cancels and replaces the first edition published in 2012 and Amendment 1:2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- the inclusion of planning and installation practices to support remote powering over the telecommunications cabling infrastructure;
- the inclusion of planning and installation practices outside buildings.

The text of this standard is based on the following documents:

FDIS	Report on voting
JTC1-SC25/2909/FDIS	JTC1-SC25/2931/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of 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 and ISO websites.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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INTRODUCTION

The use of generic information technology (IT) cabling, termed telecommunications cabling throughout this document (in accordance with the ISO/IEC 11801 series), for an increased number of non-IT services is reflected in the predominant use of the term telecommunications in this document.

The importance of services delivered by telecommunications cabling infrastructure is similar to that of utilities such as heating, lighting and electricity supplies. As with those utilities, interruptions to service can have a serious impact. Poor quality of service due to lack of planning, use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten an organization's effectiveness.

There are four phases in the successful implementation of telecommunications cabling:

a) design;

b) specification – the detailed requirement for the cabling, including the planning of its accommodation and associated building services addressing safety and specific environments (e.g. electromagnetic), together with the quality assurance requirements to be applied;

c) installation – in accordance with the requirements of the specification;

d) operation – the management of connectivity and the maintenance of transmission performance during the life of the cabling.

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This document supports the specification, implementation and operation of generic telecommunications cabling designed in accordance with the standards and associated documents developed by ISO/IEC JTC 1/SC 25 and addresses the following topics:

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- specification depending on the application, environment, building infrastructure and facilities;
- quality assurance;
- installation planning (including pathways and spaces) depending on the application, environment, building infrastructure and facilities, etc.;
- installation practice (including pathways and spaces);
- documentation and administration;
- testing;
- inspection;
- operation;
- maintenance and maintainability (based on any impact from planning and installation);
- repair and repairability (based on any impact from planning and installation).

It does not cover those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

The following normative annexes support specific aspects of planning and installation:

- Annex A: Optical fibre polarity;
- Annex B: Common infrastructures within multi-tenant premises.

The requirements and recommendations of Clauses 5 to 14 are premises-independent. The following normative annexes include requirements for generic cabling in accordance with specific International Standards:

- Annex C: Cabling in accordance with ISO/IEC 11801-2;

- Annex D: Cabling in accordance with ISO/IEC 11801-3;
- Annex E: Cabling in accordance with ISO/IEC 11801-4;
- Annex F: Cabling in accordance with ISO/IEC 11801-5;
- Annex G: Cabling in accordance with ISO/IEC 11801-6.

Annex H provides information on environmental classes for spaces containing telecommunications equipment.

Annex I provides additional information regarding remote powering.

This document sets out the responsibilities of telecommunications cabling installers and premises owners, and is intended to be referenced in relevant contracts. The owners can delegate selected responsibilities to designers, specifiers, operators and maintainers of installed telecommunications cabling.

This document is also relevant to

- architects, building designers and builders,
- main contractors,
- designers, suppliers, installers, inspectors (auditors), building managers, maintainers and owners of telecommunications cabling,
- access providers and service providers,
- end users.

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This document is one of a number of documents prepared in support of International Standards and Technical Reports for cabling design produced by ISO/IEC JTC 1/SC 25. Figure 1 shows the inter-relationship between these International Standards and Technical Reports.

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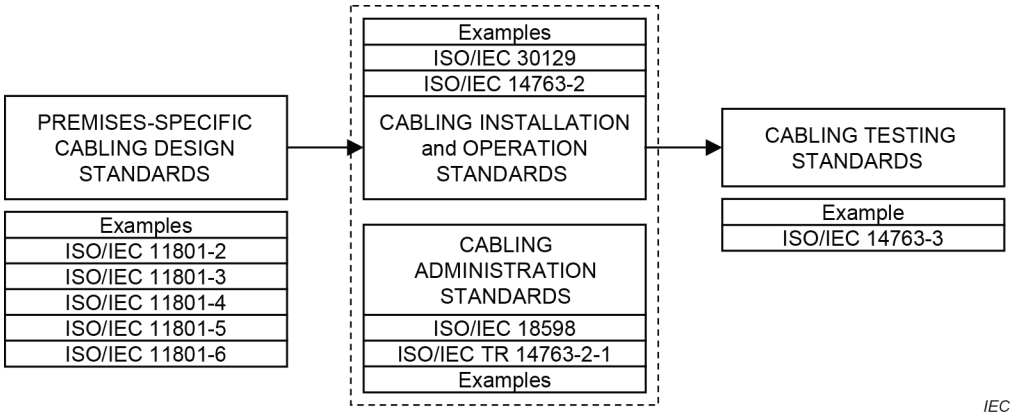

Figure 1 – Schematic relationship between ISO/IEC 14763-2 and other relevant International Standards and Technical Reports

NOTE Telecommunications infrastructure affects raw material consumption. The infrastructure design and installation methods also influence product life and sustainability of electronic equipment life cycling. These aspects of telecommunications infrastructure impact our environment. Since building life cycles are typically planned for decades, technological electronic equipment upgrades are necessary. The telecommunications infrastructure design and installation process magnifies the need for sustainable infrastructures with respect to building life, electronic equipment life cycling and considerations of effects on environmental waste. Telecommunications designers are encouraged to research local building practices for a sustainable environment and conservation of fossil fuels as part of the design process.

INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

Part 2: Planning and installation

1 Scope

This part of ISO/IEC 14763 specifies requirements for the planning, installation and operation of telecommunications cabling and cabling infrastructures including cabling, pathways, spaces and telecommunications bonds (other than that specified in ISO/IEC 30129) in support of generic cabling standards and associated documents.

The following aspects are addressed:

a) specification of the installation;
b) quality assurance;
c) installation planning;
d) installation practice;
e) documentation;
f) administration;
g) testing;
h) inspection;
i) operation;
j) maintenance;
k) repair.

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The requirements and recommendations of Clauses 5 to 14 are premises-independent. Annexes C through G contain premises-specific amendments of and additions to these requirements and recommendations.

In addition, this document describes the methodology for the assessment of spaces, pathways, pathway systems and cabling (either installed or planned) in support of remote powering objectives.

This document excludes specific requirements applicable to other cabling systems (e.g. power supply cabling); however, it takes account of the effects other cabling systems may have on the installation of telecommunications cabling (and vice versa) and gives general advice.

This document excludes those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

This document is applicable to certain hazardous environments but does not exclude additional requirements which are applicable in particular circumstances (e.g. electricity supply and electrified railways).

Safety and electromagnetic compatibility (EMC) requirements are outside the scope of this document and are covered by other standards and regulations. However, information given in this document can be of assistance in meeting these standards and regulations.