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ISO/IEC JTC1/SC25 WG3 standards

The 3 Year Plan for Working Group 3 and information on sustainability related technology

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ISO/IEC JTC1/SC25 WG3 Expert since 1995

Ireland SC06 convener since 2002

Cabling standards development cycle

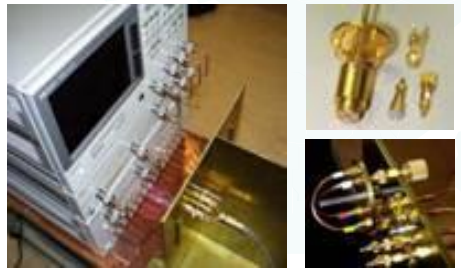
Traditionally focused on cabling/applications performance & longevity

Anticipate Market Requirements

IEEE 802 IEEE

FCIA FIBRE CHANNEL INDUSTRY ASSOCIATION

Develop & Refine Specifications



Drive Global Consensus

TIA ADVANCING GLOBAL COMMUNICATIONS

ISO IEC

CENELEC

A CONTINUOUS PROCESS

ISO/IEC JTC1/SC25 Working Group 3

ISO/IEC JTC1

International standardization in the field of Information Technology.

Information Technology includes the specification, design and development of systems and tools dealing with the capture, representation, processing, security, transfer, interchange, presentation, management, organization, storage and retrieval of information. JTC 1 is the standards development environment where experts come together to develop worldwide Information and Communication Technologies (ICT) standards for business and consumer applications. Additionally, JTC 1 provides the standards approval environment for integrating diverse and complex ICT technologies. These standards rely upon the core infrastructure technologies developed by JTC 1 centers of expertise complemented by specifications developed in other organizations.

ISO/IEC JTC1/SC25

28 P members

17 O members

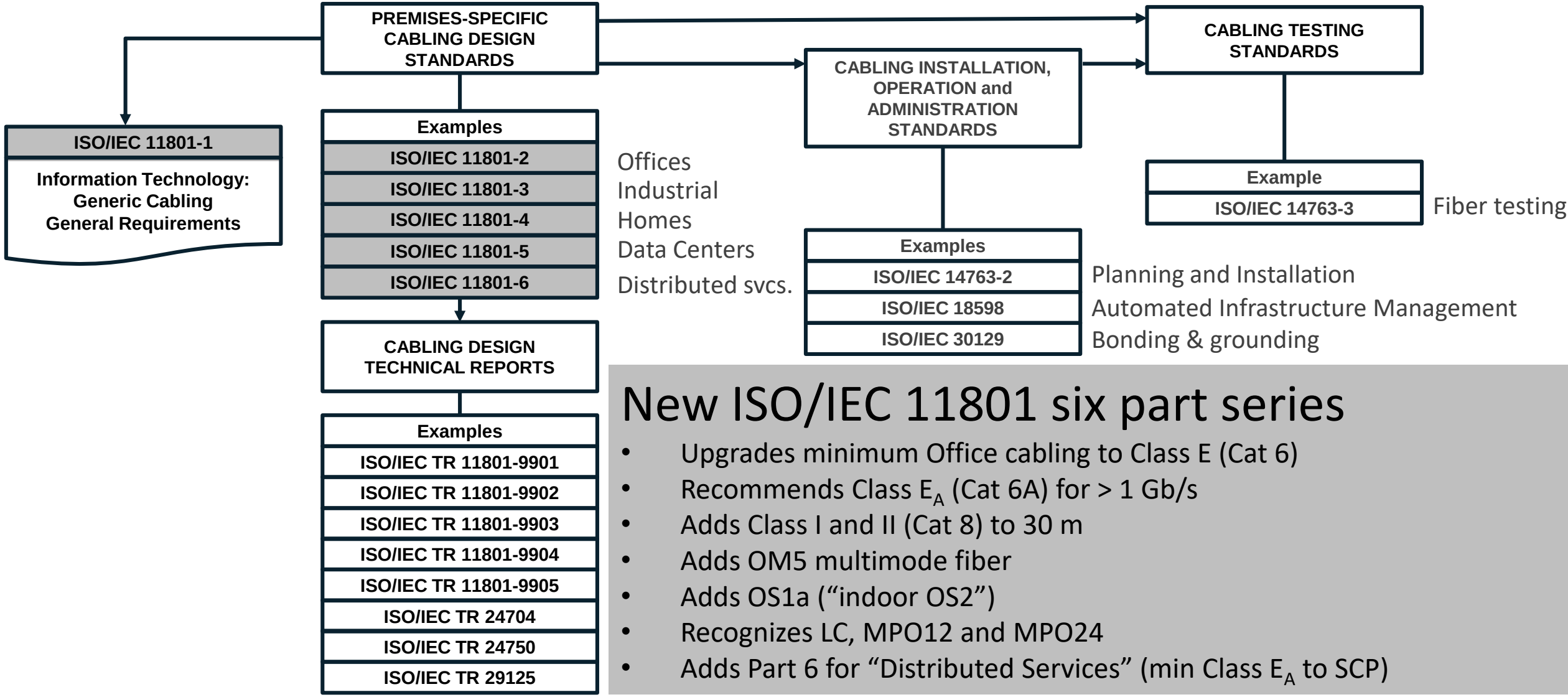
Standardization of microprocessor systems; and of interfaces, protocols, architectures and associated interconnecting media for information technology equipment and networks, generally for commercial and residential environments, to support embedded and distributed computing environments, storage systems, other input/output components, home and building electronic systems including customer premises smart grid applications for electricity, gas, water and heat. NOTE: This scope includes requirements for components, assemblies and subsystems. However, standardization of cables, waveguides and connectors remains within the relevant product technical committees and subcommittees of IEC. The scope includes the development of network interfaces, in liaison with committees for external utility networks, to support smart grid applications at the customer premises.

ISO/IEC JTC1/SC25 WG3

Experts from 25 countries

Standardization of characteristics of cabling systems for customer premises including test procedures and planning and installation guides

ISO/IEC JTC1/SC25 Working Group 3 Family of Standards



New ISO/IEC 11801 six part series

- Upgrades minimum Office cabling to Class E (Cat 6)
- Recommends Class E_A (Cat 6A) for > 1 Gb/s
- Adds Class I and II (Cat 8) to 30 m
- Adds OM5 multimode fiber
- Adds OS1a (“indoor OS2”)
- Recognizes LC, MPO12 and MPO24
- Adds Part 6 for “Distributed Services” (min Class E_A to SCP)

ISO/IEC JTC1/SC25 WG3 - Current Projects

Generic Cabling

- Amendment to ISO/IEC 11801-1, 11801-3 and 11801-6 to cover single pair cabling

Automated infrastructure management (AIM) systems

- Amendment to ISO/IEC 18598 to cover Remote Powering.

Application specific cabling

- ISO/IEC TR 11801-9906 on 1 pair cabling applications
- ISO/IEC TR 11801-9907 Direct Attach Cabling.
- ISO/IEC TR 11801-9908 high speed applications over multimode optical fibre channels
- ISO/IEC TR 11801-9909 25 Gbit/s balanced cabling extended reach greater than 30 m

Telecommunications bonding

- Amendment to ISO/IEC 30129:2016

MICE

- Amendment to ISO/IEC TR 29106

ISO/IEC JTC1/SC25 WG3 3 Year Plan

2019

ISO/IEC 30129 “Bonding” - Amendment
ISO/IEC TR 29106 “MICE” – Amendment
ISO/IEC 14763-2 “Planning and installation” - Revision

2020

ISO/IEC 18598 “AIM” – Amendment (including remote powering)
ISO/IEC TR-9906 Application specific support of 1 pair cabling (40 m, 1 Gbit/s).

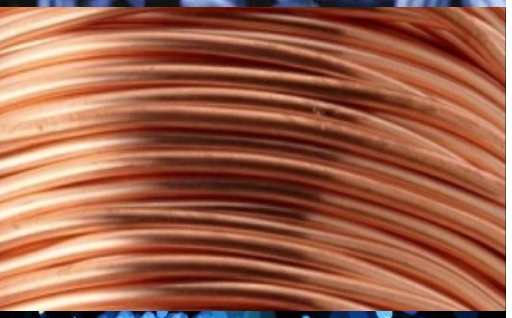
2021

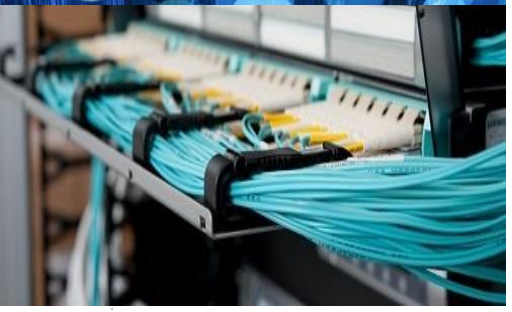
ISO/IEC 11801-1, 11801-3 and 11801-6 - Amendment (generic 1 pair cabling)
ISO/IEC TS 29125 “remote powering” – Revision (1 pair cabling)
Revision of ISO/IEC TR 11801-9903 “Matrix modelling of channels and links”
Technical Report on cabling in support of 25GBASE-T over 50 m.
Revision of ISO/IEC 14763-3 to align with technical developments
Revision of ISO/IEC 30129:2015 “Bonding”
Additional areas for consideration include Healthcare and Education

TBC

Physical security of infrastructure, energy efficiency, sensor networks
Impact of 1 pair cabling on other standards committees
Balanced cabling up to 100 Gb/s
Operating temperature of balanced channels and components beyond 60 °C
Impact of new wireless communication technologies such as lighting on cabling standards
Offshore application of cabling systems
Sustainability and cabling systems

WG3 - Sustainability and Cabling Systems





“Sustainability and Cabling Systems” may be explored as a future WG3 topic

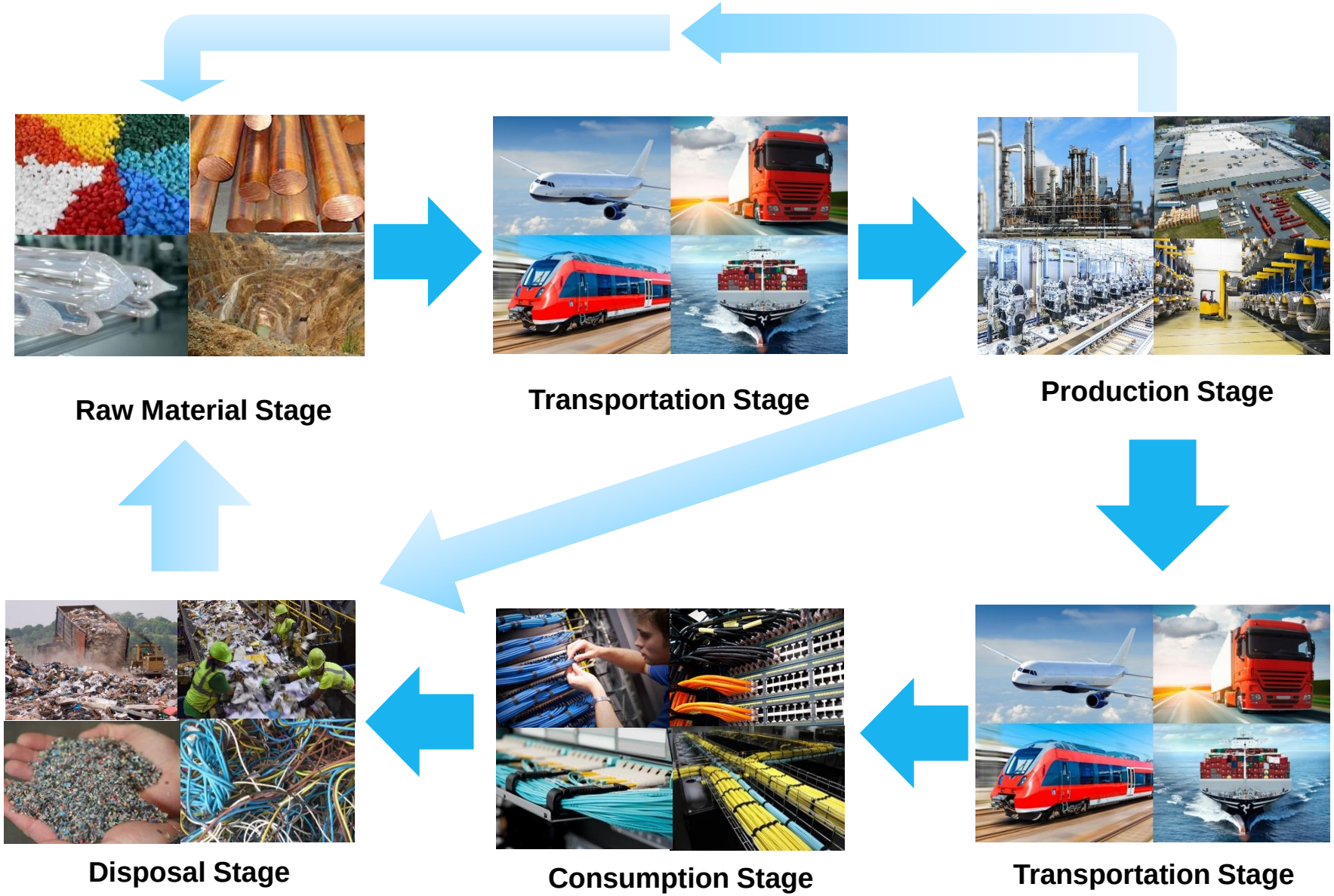
From the WG3 3-Year Plan (Document 3Fal037A, Falls Church meeting, September 2018):

Sustainable cabling systems:

- **cabling installation skills, training**
- **administration**
- **quality control**
- **usability**
- **accountability**

A definition of the scope to be covered is required

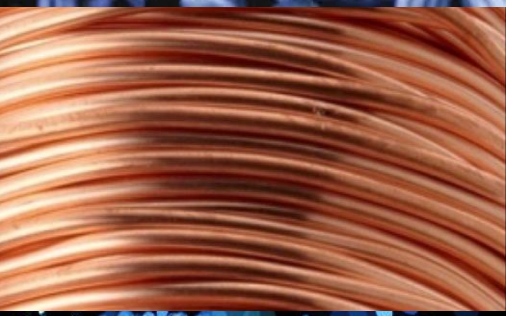
Cradle to Grave Concept: Life Cycle Assessment

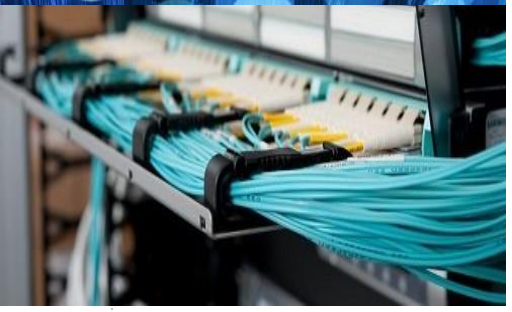


Main Objectives of Life Cycle Thinking

REDUCE	Energy and material consumption
REPLACE	Harmful substances with environmental alternatives
RECYCLE	Use recyclables, build products for easy recycling
REUSE	Design the product so parts can be reused

How to improve the sustainability of cabling systems today?





Think long term

Think integrated

Think smarter

Are there existing choices/architectures that can improve sustainability?

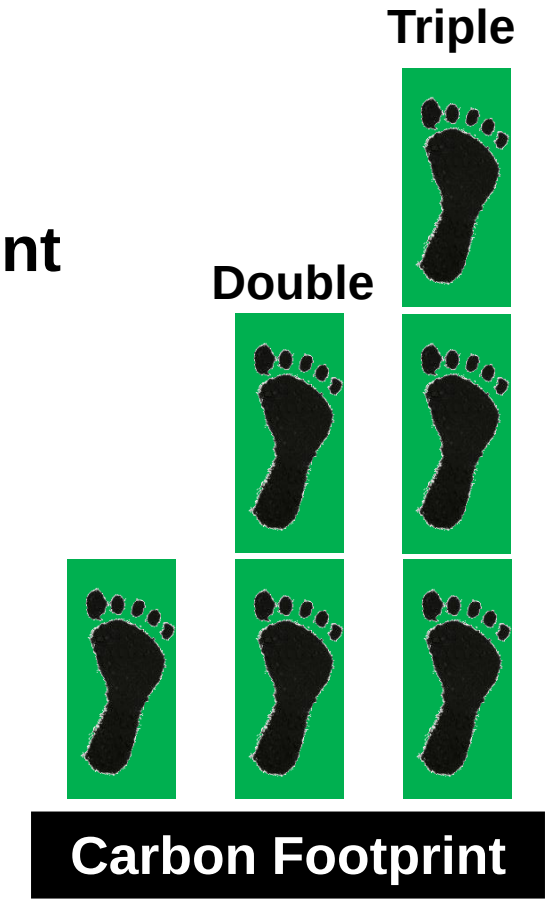
Think Long Term

Cabling must support at least two (2) generations of equipment

Recabling once in 10 years doubles your footprint

Recabling twice in 10 years triples your footprint

Consider optimal copper and fiber cabling media and architectures to extend usability



Think <u>Integrated</u>: ISO/IEC 11801-6 Distributed Building Services

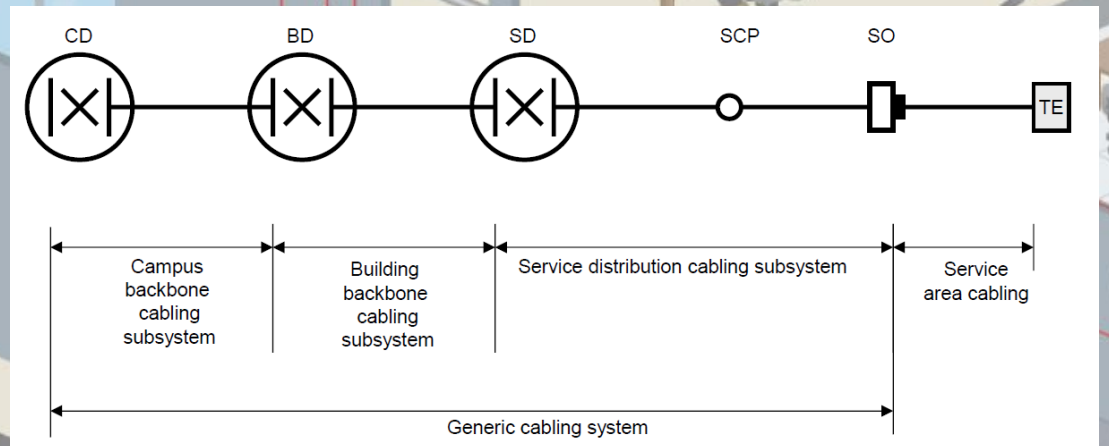


Figure 2 – Structure of Type A generic cabling

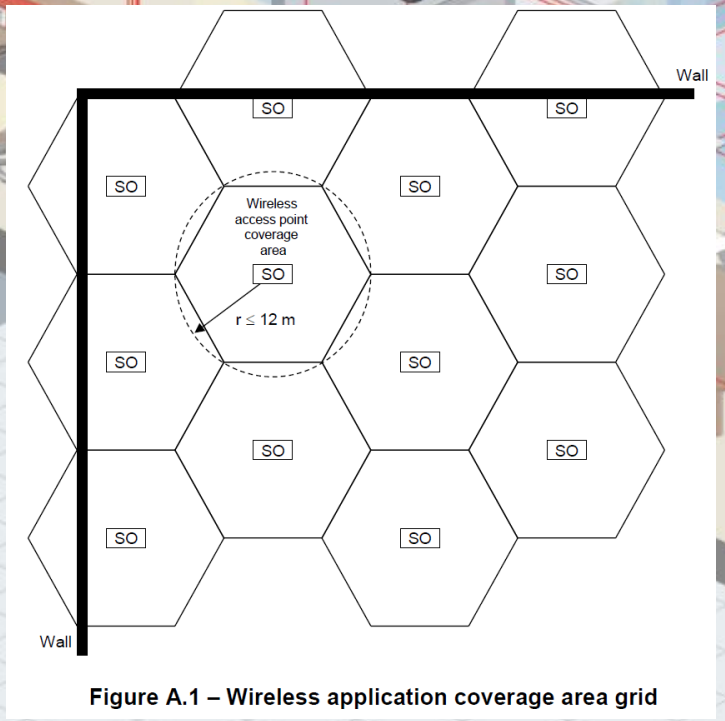
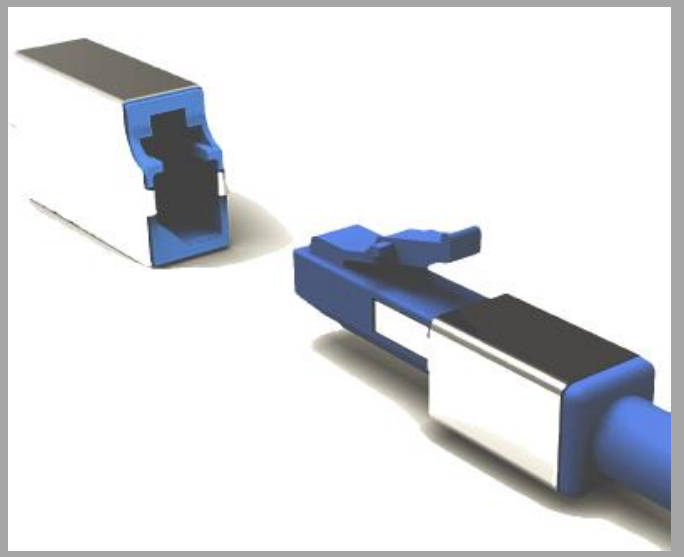


Figure A.1 – Wireless application coverage area grid

One pair cabling in ISO/IEC JTC1/SC25 WG3

- ISO/IEC TR 11801-9906 for 1 pair cabling applications
- Amendment to ISO/IEC 11801-1, 11801-3 and 11801-6 in progress for “generic cabling”

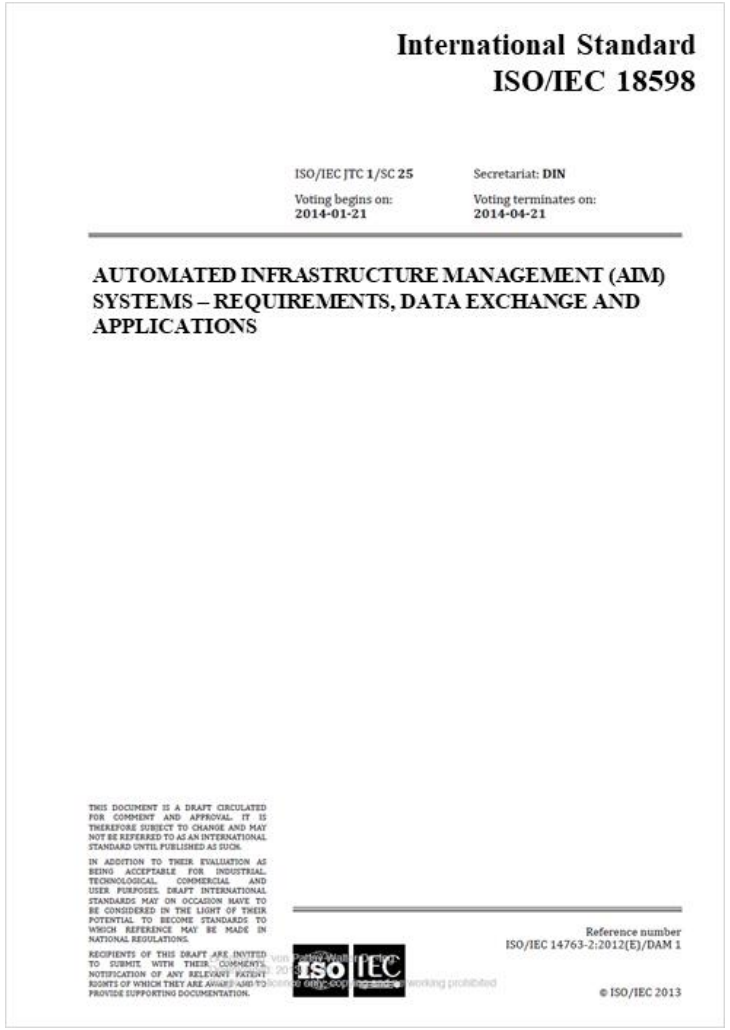
Single pair connectors in ISO/IEC JTC1/SC25 WG3



LC style
For $M_1I_1C_1E_1$
IEC 63171-1 ed 1

Industrial style
For $M_3I_3C_3E_3$
IEC 61076-3-125

Think Smarter: ISO/IEC 18598 Automated Infrastructure Management



International Standard
ISO/IEC 18598

ISO/IEC JTC 1/SC 25 Secretariat: DIN

Voting begins on: 2014-01-21 Voting terminates on: 2014-04-21

AUTOMATED INFRASTRUCTURE MANAGEMENT (AIM) SYSTEMS – REQUIREMENTS, DATA EXCHANGE AND APPLICATIONS

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Reference number
ISO/IEC 14763-2:2012(E)/DAM 1

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Electronic work orders improve efficiency

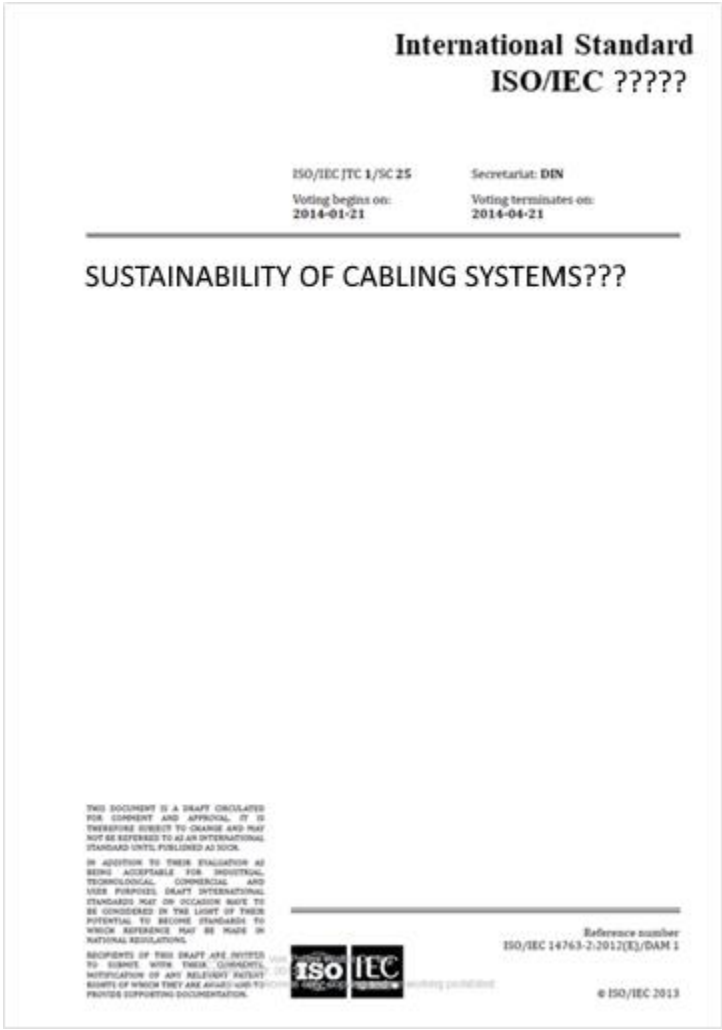
Device discovery optimizes device usage

PoE features enhance energy management

Sustainability of Cabling Systems and Working Group 3

Should a new Standard be developed to cover sustainability of cabling systems?

A New Proposal can be considered by ISO/IEC JTC1/SC25 WG3



International Standard
ISO/IEC ?????

ISO/IEC JTC 1/SC 25 Secretariat: DIN

Voting begins on: 2014-01-21 Voting terminates on: 2014-04-21

SUSTAINABILITY OF CABLING SYSTEMS???

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