GETTING THE TELECOMMS INFRASTRUCTURE YOU DESERVE

or

"Why do we bother writing standards?"

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Mike Gilmore

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11th JANUARY 2006

Mike Gilmore

Managing Director
e-Ready Building

Standards Activities

Member
JTC1 SC25 WG3: Generic Cabling

Convenor
JTC1 SC25 WG3 IPTG: Industrial Premises Cabling

Convenor
TC215 WG1: IT Cabling
TC215 WG1 PT Industrial Premises Cabling

Secretary
TC215 WG1 PT Data Centre Cabling

Chairman
TCT7: Telecommunications - Installation Requirements

Chairman
TCT7/-/1: Cabling infrastructure design, planning and commissioning
TCT7/-/3: Cabling: Infrastructure standards - UK implementation panel

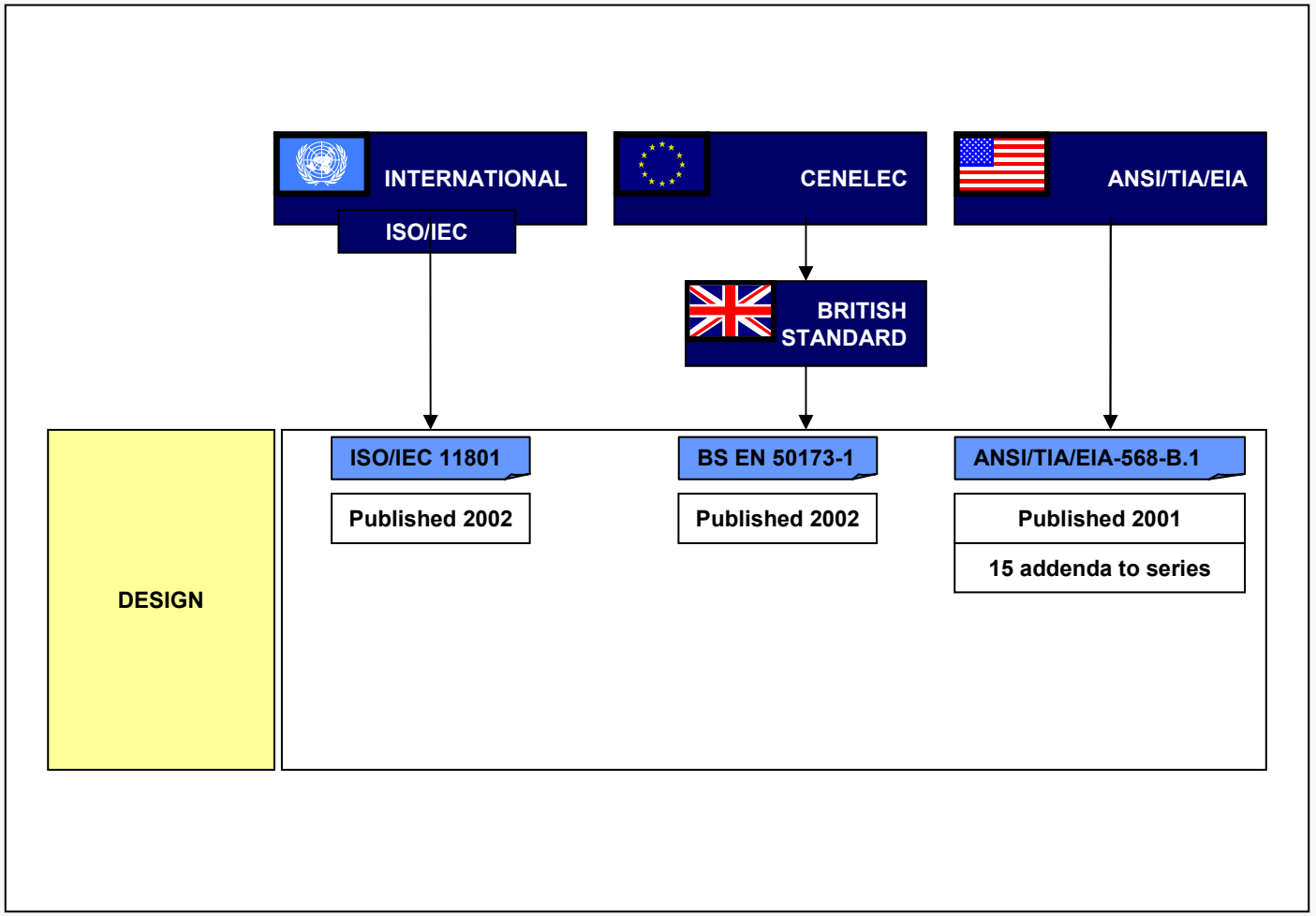
FIA
www.fia-online.co.uk

Technical and Standards Director
Fibreoptic Industry Association

Mobile: +44 (0) 7860 110563

e-mail: mike.gilmore@btinternet.com

Telecommunications Cabling Design Standards



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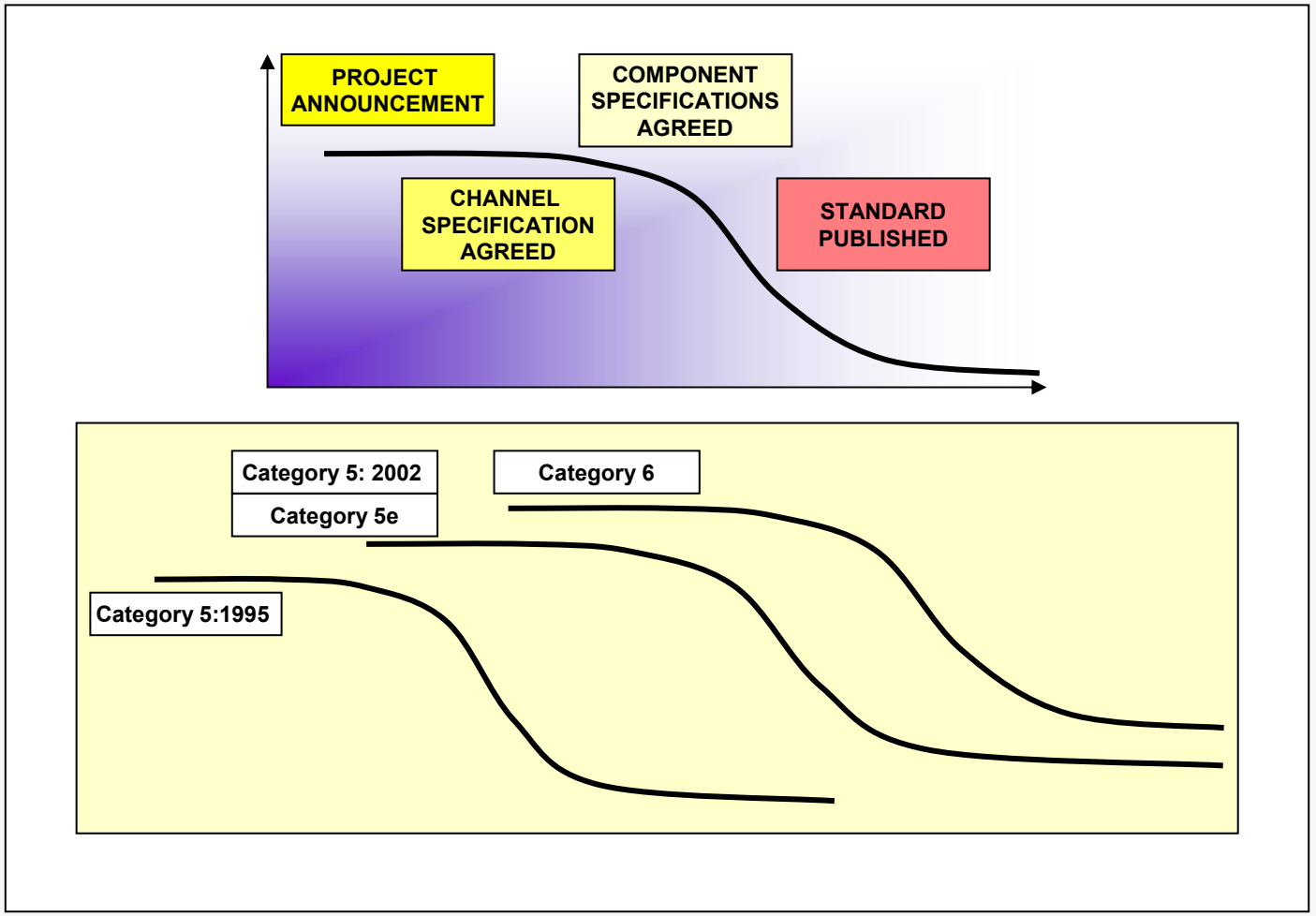
Standards and Component Profit Margins



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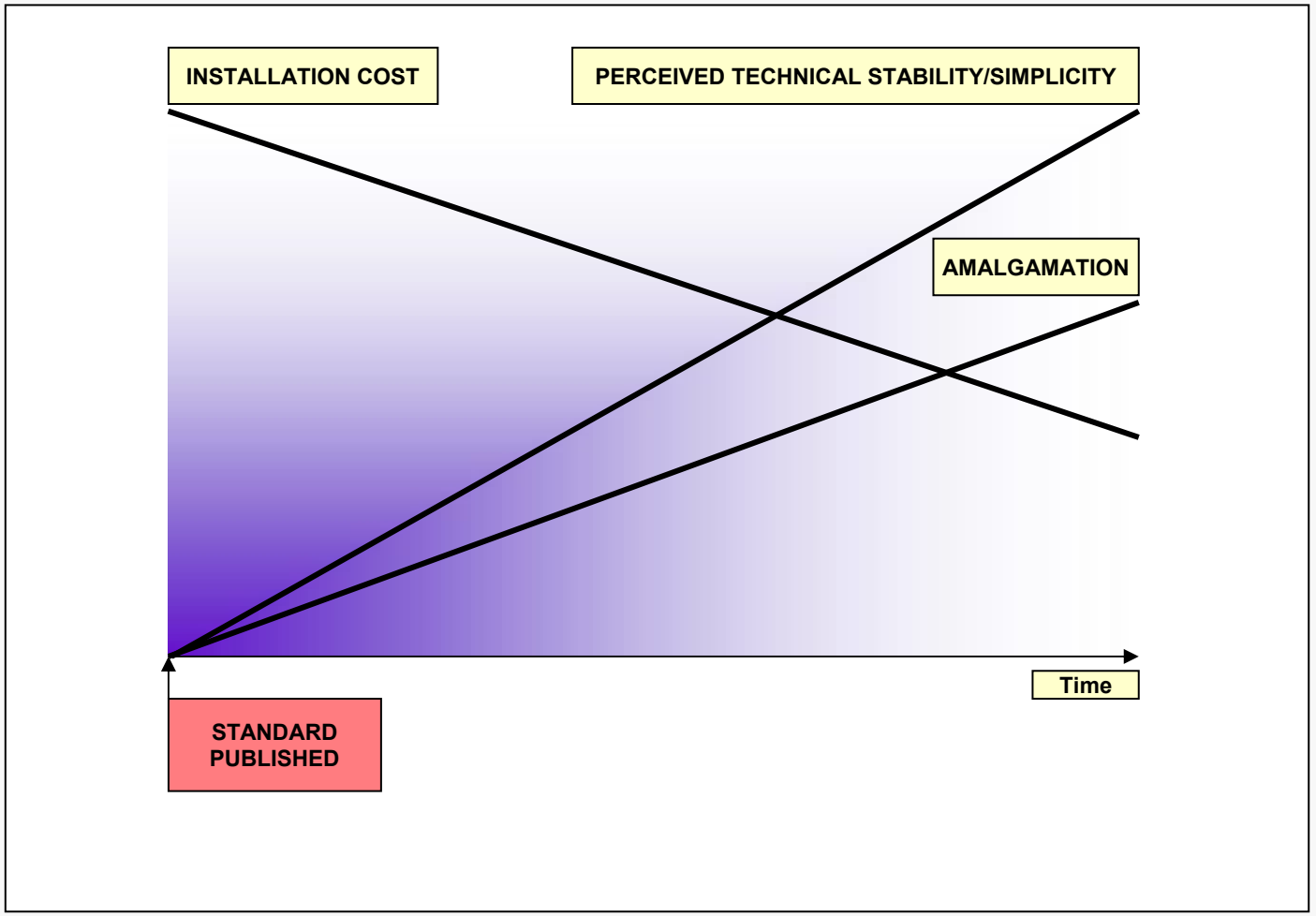
The Impact on Installation Contracts



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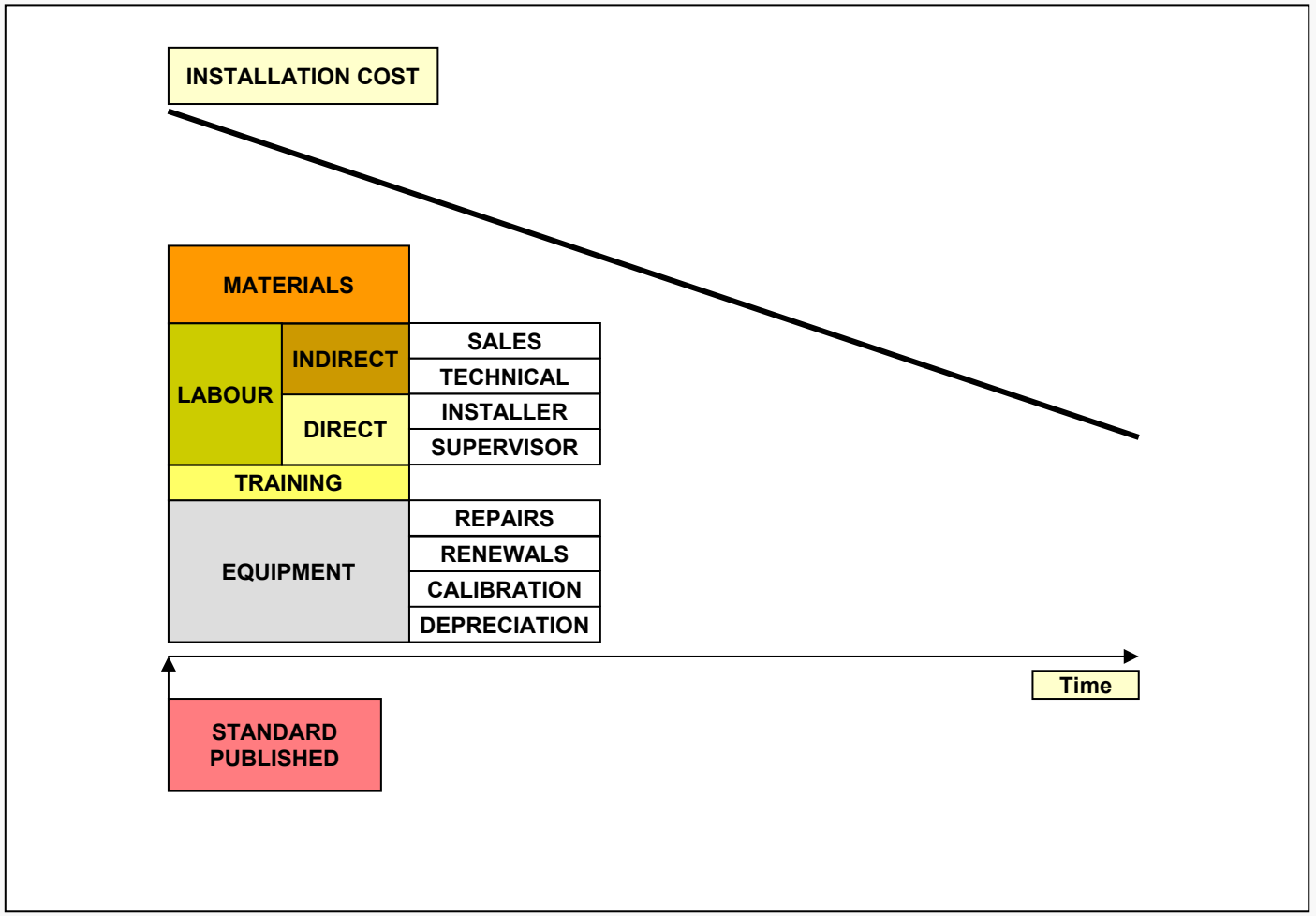
The Casualties



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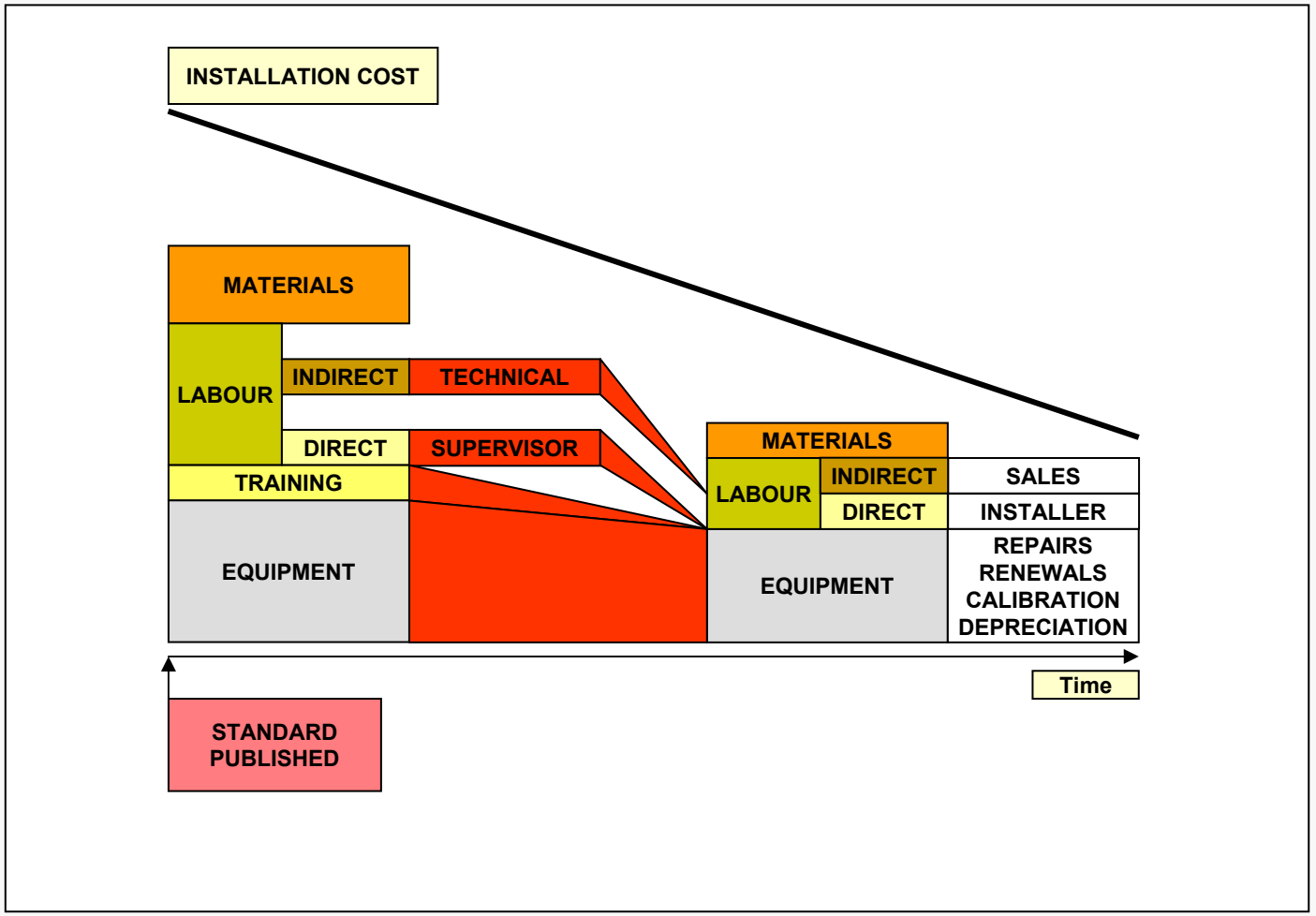

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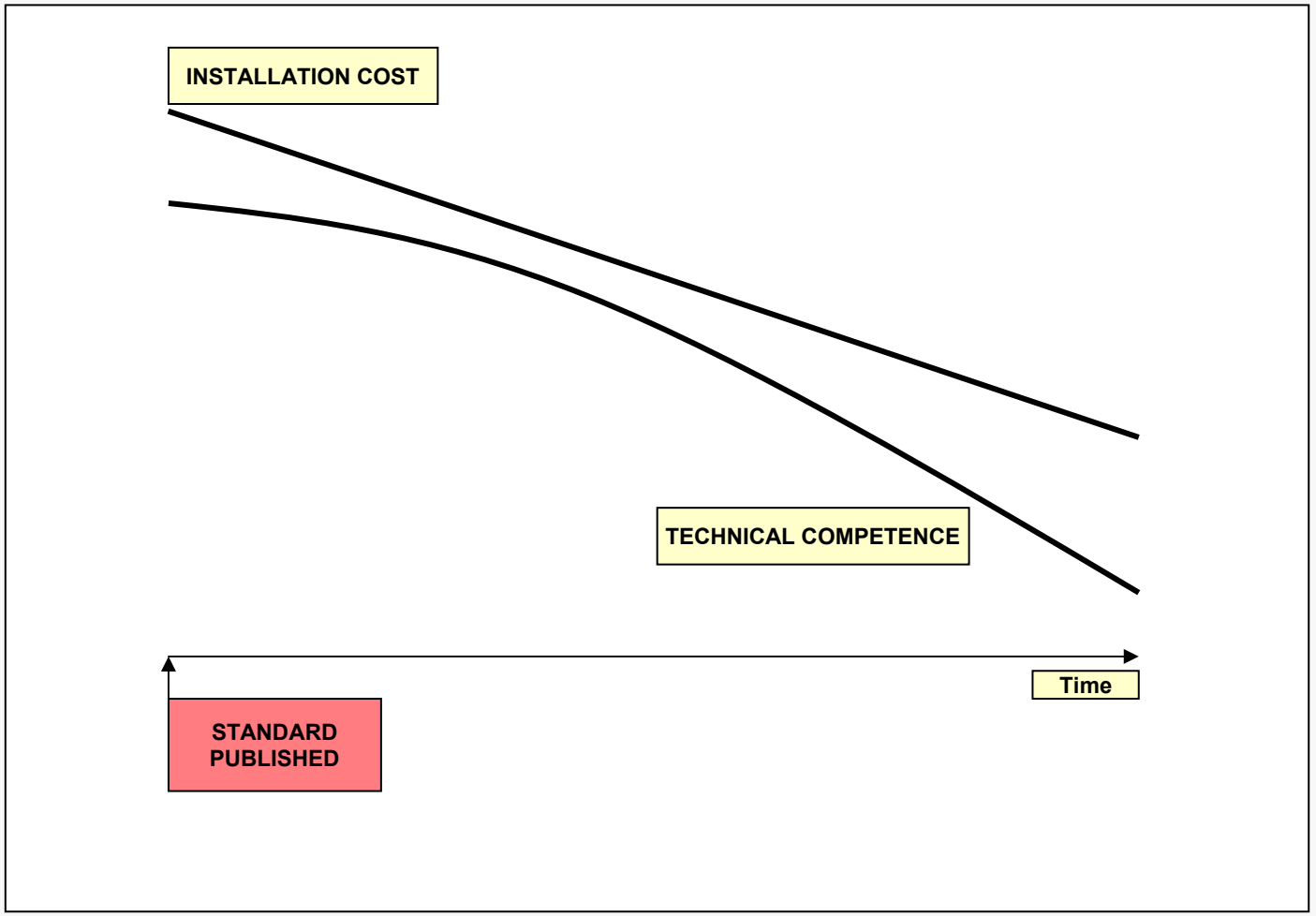
The Casualties



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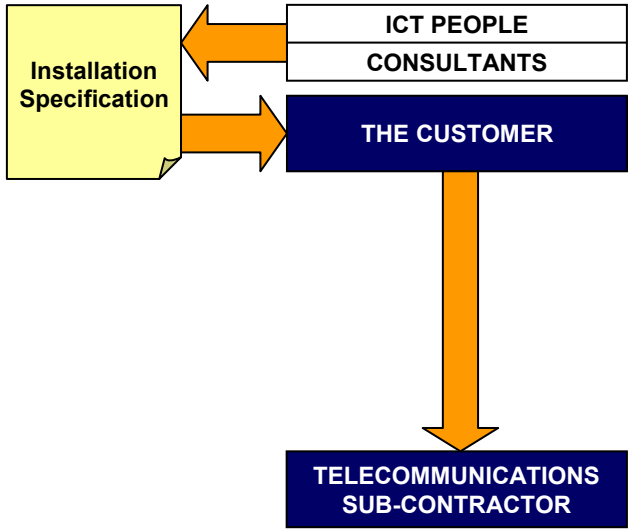
The Amalgamation Barrier - I



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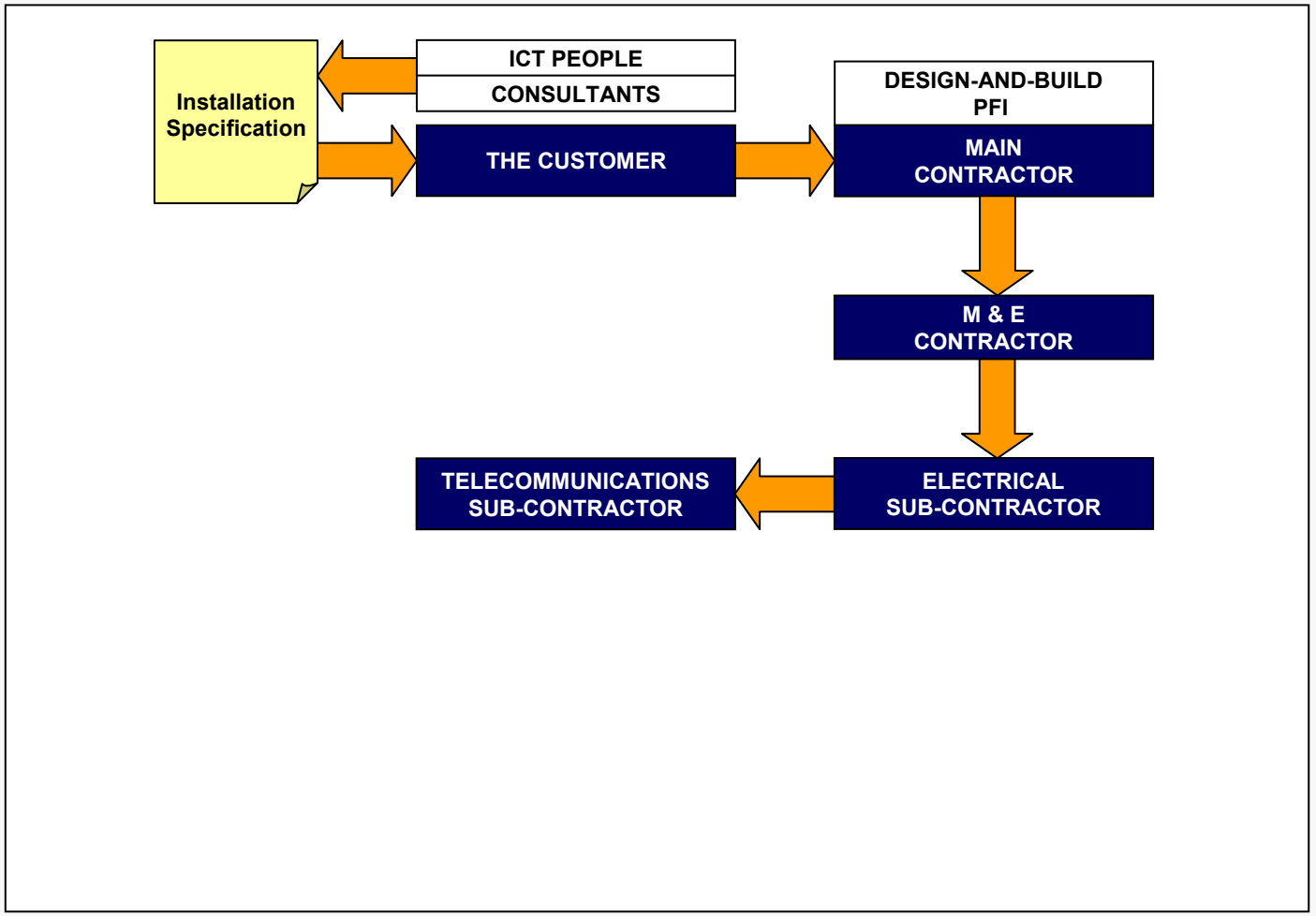
The Amalgamation Barrier - II



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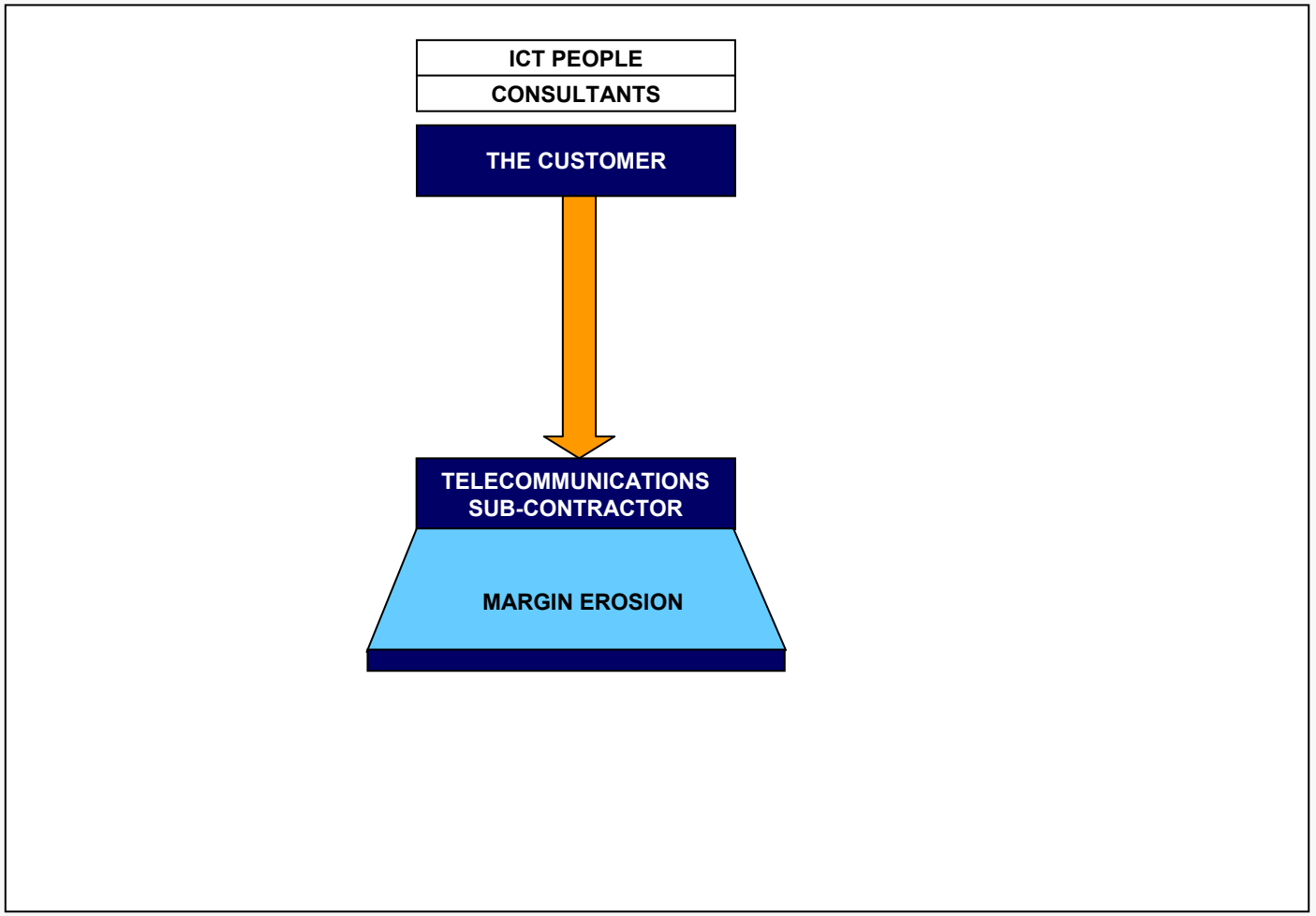
The Complaint Chain - I



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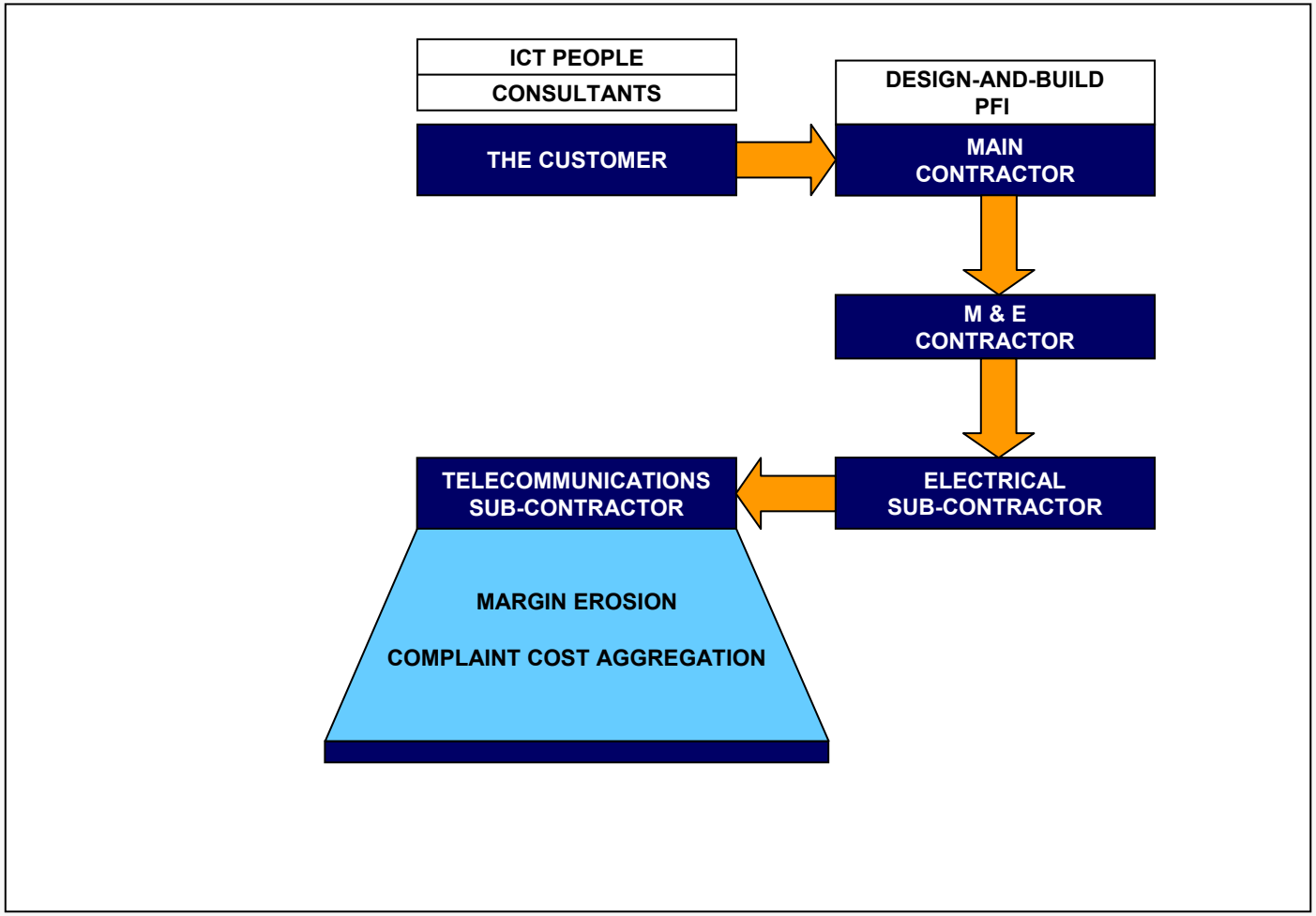
The Complaint Chain - II



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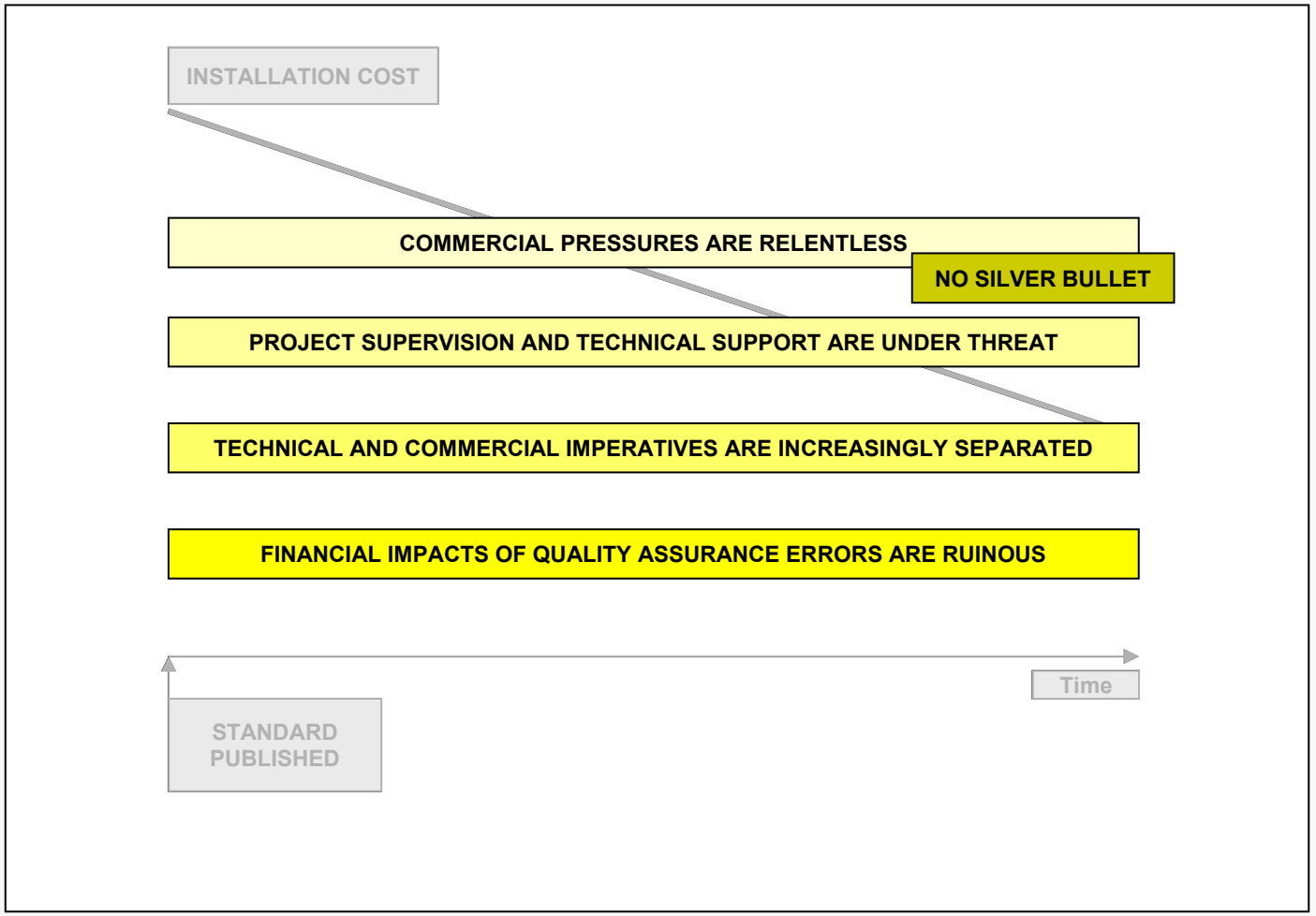
The Problem



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Consultants and the Shotgun Approach

CONSULTANTS RARELY READ STANDARDS

BELIEFS RATHER THAN FACTS

A GOOD STANDARD NEVER DIES

"SHOTGUNS" ARE BETTER THAN "SNIPER RIFLES"

Recent shotgun example

Ensure that the design and installation of the cabling system comply with the requirements and recommendations of:
- ***EIA/TIA 568B (258A) Commercial Building Telecommunications Wiring Standard***
- ***TSB36***
- ***TSB40***
- ***TSB95***
- ***BS7671***
- ***Relevant OFTEL and DTI Regulations***
- ***BS 6701***
- ***BS 6301***
- ***ISO/IEC 11801***

Ensure cables between the patch rooms and workstations support the following:
- ***BS EN 50173***
- ***BS EN 50174***
- ***ISO 8802/3***
- ***IEEE 802.3***

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Ensure cables between the patch rooms and workstations support the fo.

- ***BS EN 50173***
- ***BS EN 50174***
- ***ISO 8802/3***
- ***IEEE 802.3***

Defines a Pin-Pair arrangement

None apply No OFTEL

Installation NOT design

Identical APPLICATION standards

All three superseded by (but different to) Category 5e specifications in ANSI/TIA/EIA-568-B (2001)

Superseded/withdrawn (1989)

Conflict with Category 5e of ANSI/TIA/EIA-568-B (2001)

Conflict with Category 5e of ANSI/TIA/EIA-568-B (2001) and possibly ISO/IEC 11801

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- ***BS 6701***
- *BS 6301*
- *ISO/IEC 11801*

and we still don't know what is actually required except for the pin-out

Ensure cables between the patch rooms and workstations support the following:

- *BS EN 50173*
- *BS EN 50174*
- *ISO 8802/3*
- *IEEE 802.3*

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Infrastructure Specification

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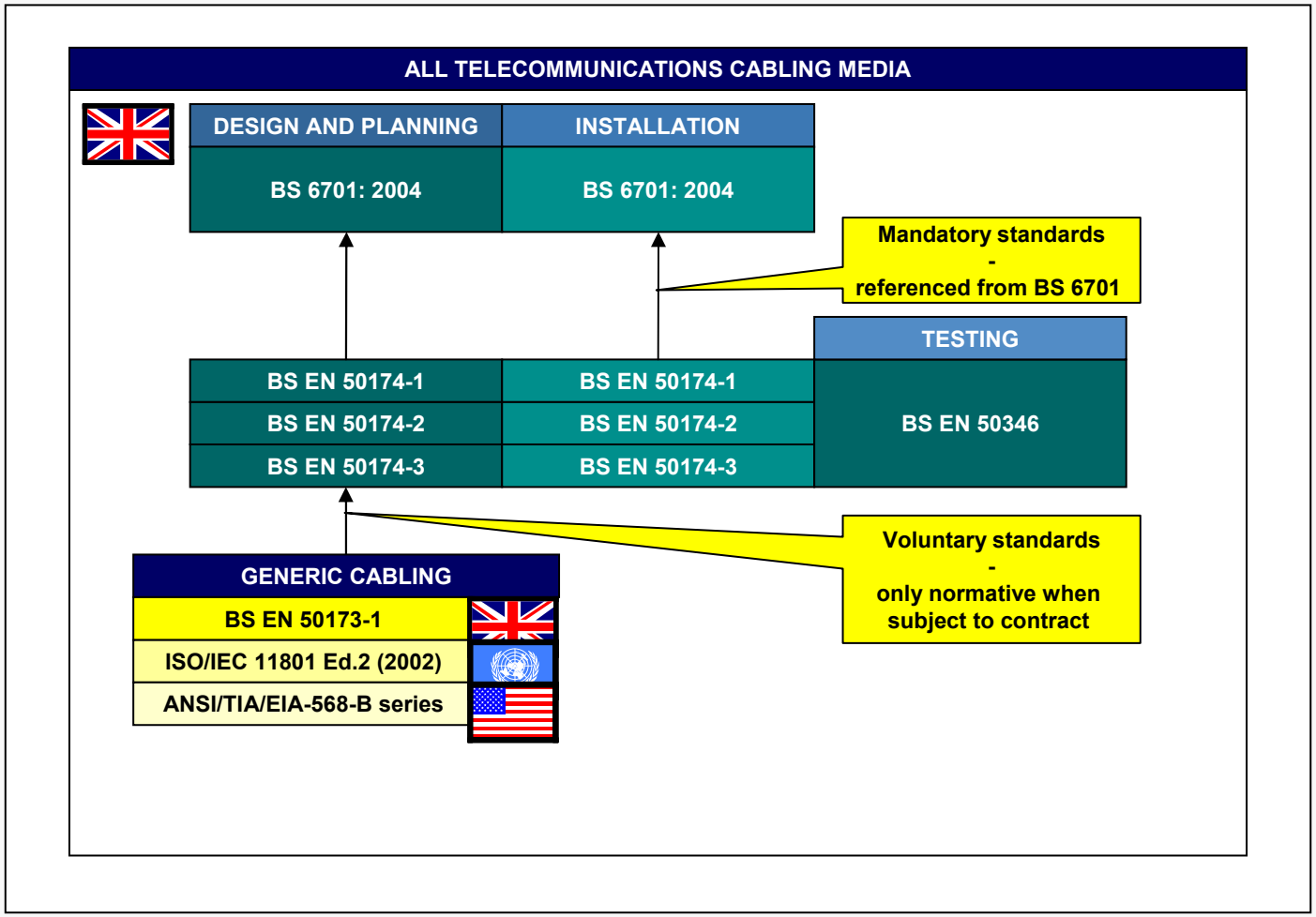

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BS 6701:2004

IMPLICIT IN ALL CONTRACTS ASSOCIATED WITH BS 7671	
BS 6701:2004	Telecommunications equipment and telecommunications cabling - Specification for installation, operation and maintenance

	Foreword
1	Scope
2	Normative references
3	Terms, definitions and abbreviations
4	Requirements for installers of telecommunications equipment and telecommunications cabling
5	Requirements for owners of premises housing telecommunications systems
	Bibliography

INSTALLER	the person/organization undertaking the physical installation of the cabling
OWNERS OF PREMISES	may delegate the responsibilities specified to authorized persons e.g designers, specifiers, operators and maintainers of the telecommunications systems.

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Safety

TELECOMMUNICATIONS CABLING

BS 7671 — **Requirements for electrical installations: IEE Wiring Regulations: 16th edition**

OPTICAL FIBRE

BS EN 60825-2 — **Safety of Laser Products - Part 2: Safety of optical fibre communication systems**

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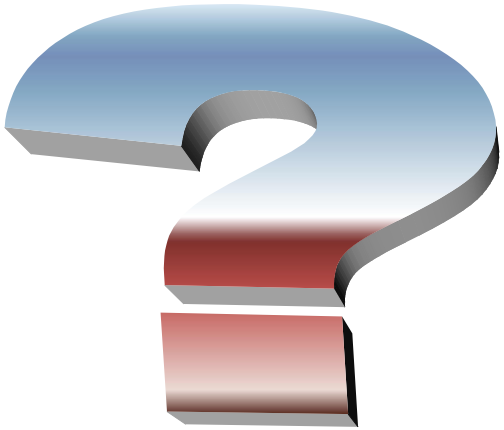
Specification Assessment

- Cabling shall be in accordance with ANSI/TIA/EIA-568-B
- Please install Category 5e horizontal cabling in accordance with ANSI/TIA/EIA-568-B
- The cabling shall be designed in accordance with EN 50173-1
- The horizontal cabling shall be of category 6 as specified in ANSI/TIA/EIA-568-B
- The cabling shall be installed in accordance with BS 6701



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ANSI/TIA/EIA-568-B Conformance

	CABLING STRUCTURE IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	HORIZONTAL CABLING (excluding pathways and spaces) IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	COMPONENTS HAVE TO BE SELECTED
	TO'S (excluding terminal marking and mounting requirements) IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	MUTOA's AND CP's (excluding automatic reference to administration) IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	HORIZONTAL CABLING IMPLEMENTATION RULES IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	INDOOR BACKBONE CABLING IMPLEMENTATION RULES IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	IN GENERAL TELECOMMUNICATIONS ROOMS AND EQUIPMENT ROOMS WILL NOT BE IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	IN GENERAL GROUNDING AND BONDING WILL NOT BE IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	HORIZONTAL CABLING SCREENING IN ACCORDANCE WITH ANSI/TIA/EIA-568-B
	TEST LIMITS HAVE TO BE SPECIFIED TESTING APPLIED TO CP LINKS AND BACKBONE PERMANENT LINKS IS OUTSIDE THE SCOPE OF ANSI/TIA/EIA-568-B

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BS EN 50173-1 and ISO/IEC 11801

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BS EN 50173-1:2002

The structure and configuration shall conform to the requirements of Clause 4

The interfaces to the cabling at the telecommunications outlet shall conform to the requirements of Clause 8 with respect to mating interfaces and performance

Connecting hardware at other places in the cabling structure shall meet the performance requirements specified in Clause 8

The performance of channels shall conform to the requirements of Clause 5

Local regulations concerning safety shall be met.

The performance of balanced channels shall meet the requirements specified in Clause 5 by:

- **A channel design and implementation ensuring that the prescribed channel performance class of Clause 5 is met.**
- **Attachment of appropriate components to a link design meeting the prescribed performance class of Annex A. Channel performance shall be assured where a channel is created by adding more than one cord to either end of a link meeting the requirements of Annex A.**
- **Using the reference implementations of Clause 6 and compatible cabling components conforming to the requirements of Clauses 7, 8 and 9, based upon a statistical approach of performance modelling.**

Test methods to ensure conformance with the channel and link requirements of Clause 5 and Annex A respectively are specified in EN 50346.

The treatment of measured results that fail to meet the requirements of this clause, or lie within the relevant measurement accuracy, shall be clearly documented within a quality plan as described in EN 50174-1.

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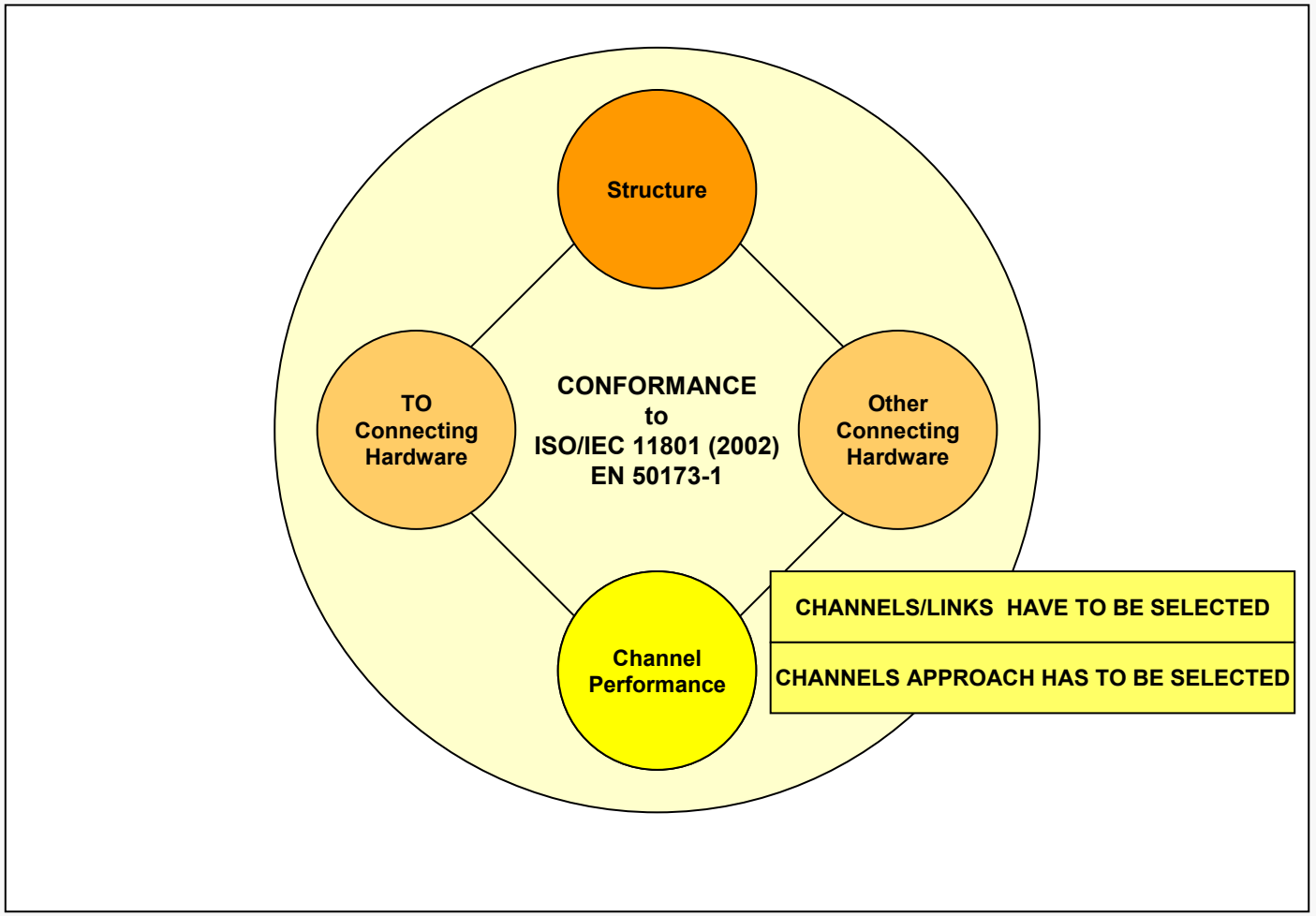
BS EN 50173-1 and ISO/IEC 11801



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Understanding Conformance

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THE KEYS TO RISK REDUCTION

DETAILED UNDERSTANDING OF THE WHICH STANDARDS THE CUSTOMER REQUIRES

DELETING THE OBSOLETE, THE CONFLICTING AND THE CONFUSING

KNOWING HOW TO CONFORM TO THE STANDARDS THAT ARE LEFT

Installation Specification

PLEASE SUPPLY CABLING IN ACCORDANCE WITH

BS EN 50173-1: 2002

Installation Specification

PLEASE INSTALL CABLING IN ACCORDANCE WITH

BS 6701: 2004

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The Future of Installation

PRODUCED BY CENELEC TC215	
BS EN 50174-1	Information technology - Cabling installation- Part 1: Specification and Quality Assurance
BS EN 50174-2	Information technology - Cabling installation- Part 2: Installation planning and practices inside buildings
BS EN 50174-3	Information technology - Cabling installation- Part 3: Installation planning and practices outside buildings

REVISION BEGINNING 2004	
REQUIREMENTS	Clear, unambiguous
	Verifiable
RESPONSIBILITY	Clear, unambiguous
	Verifiable
COMPLETION 2006	

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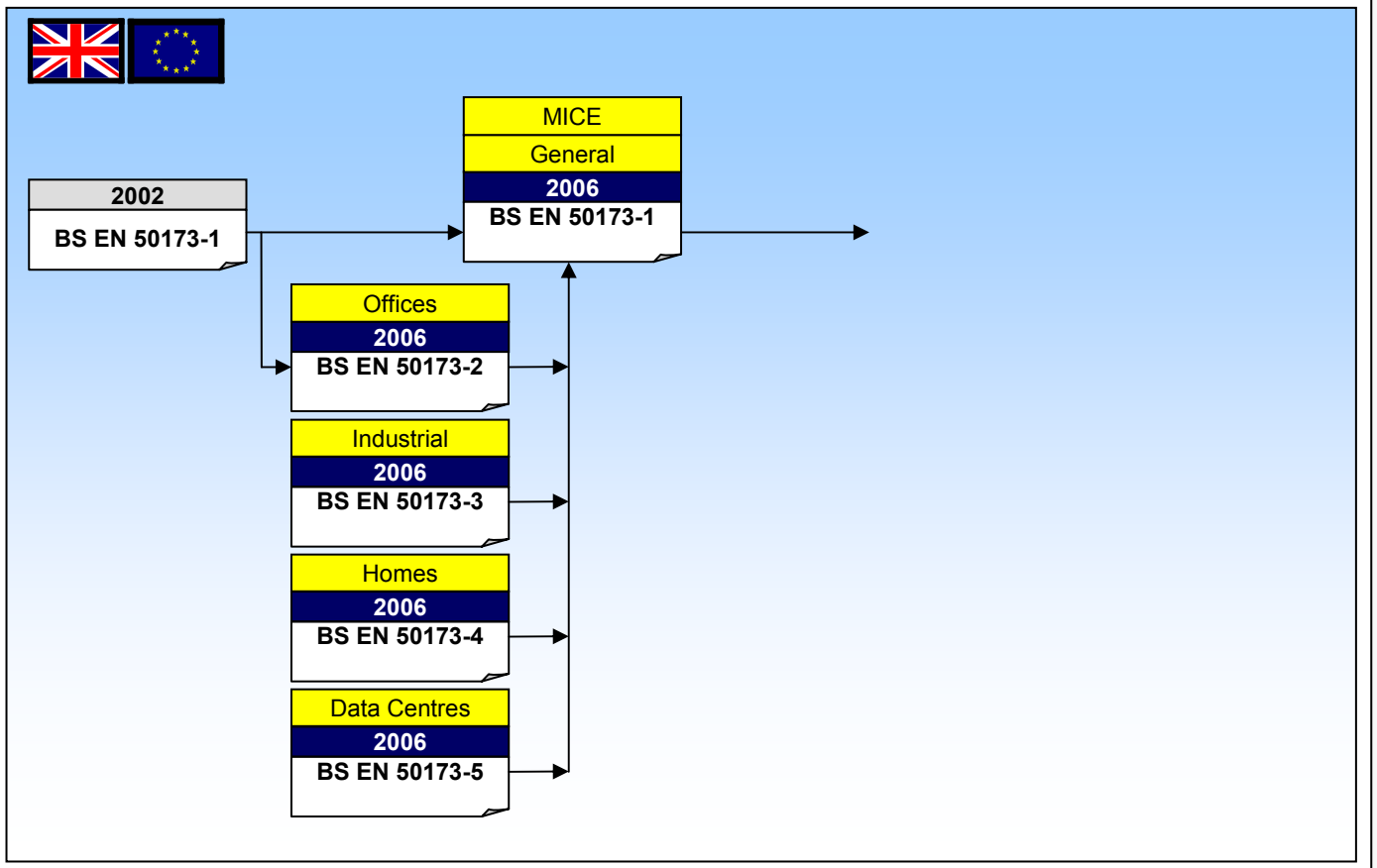
The Immediate Future



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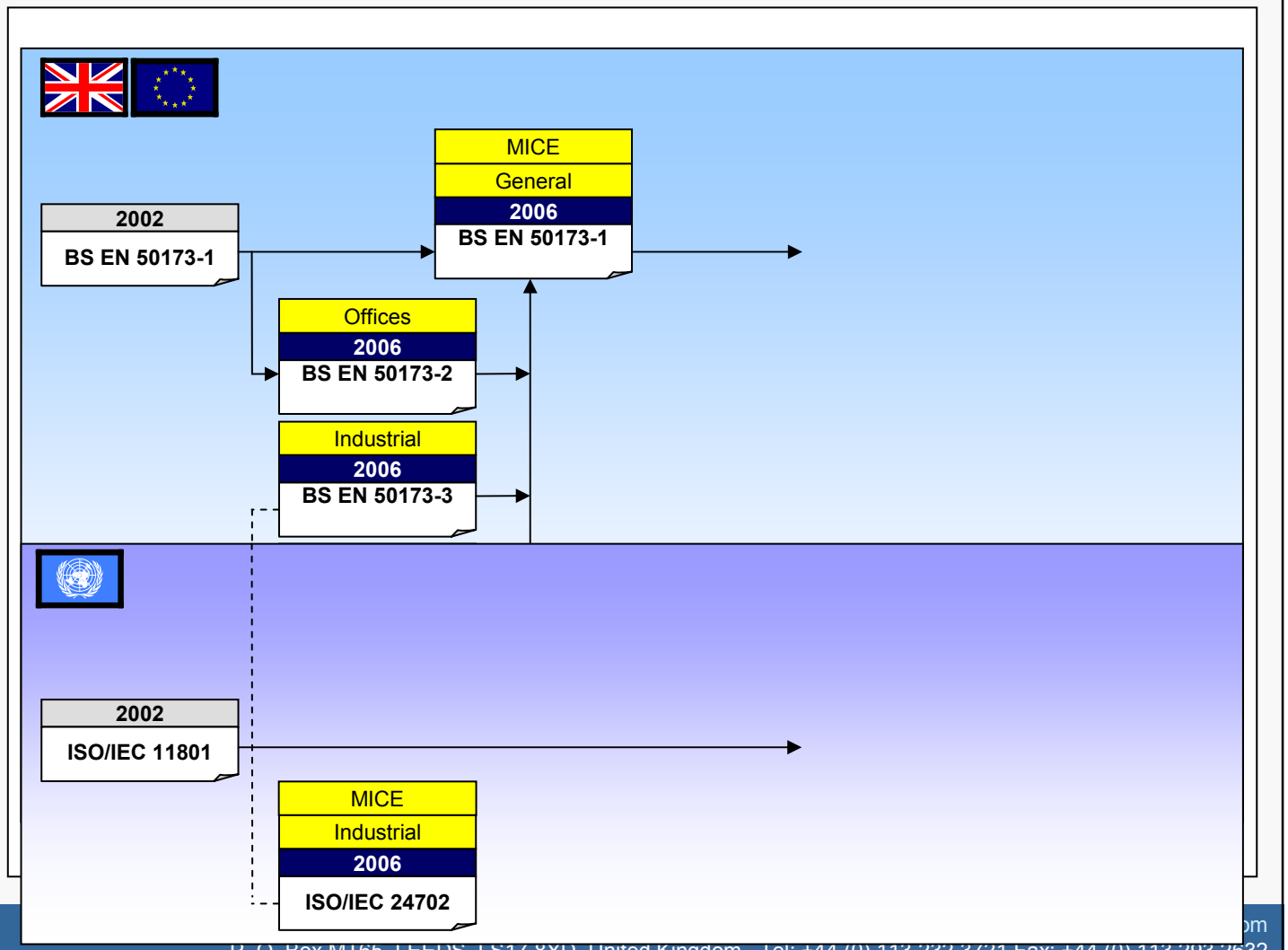

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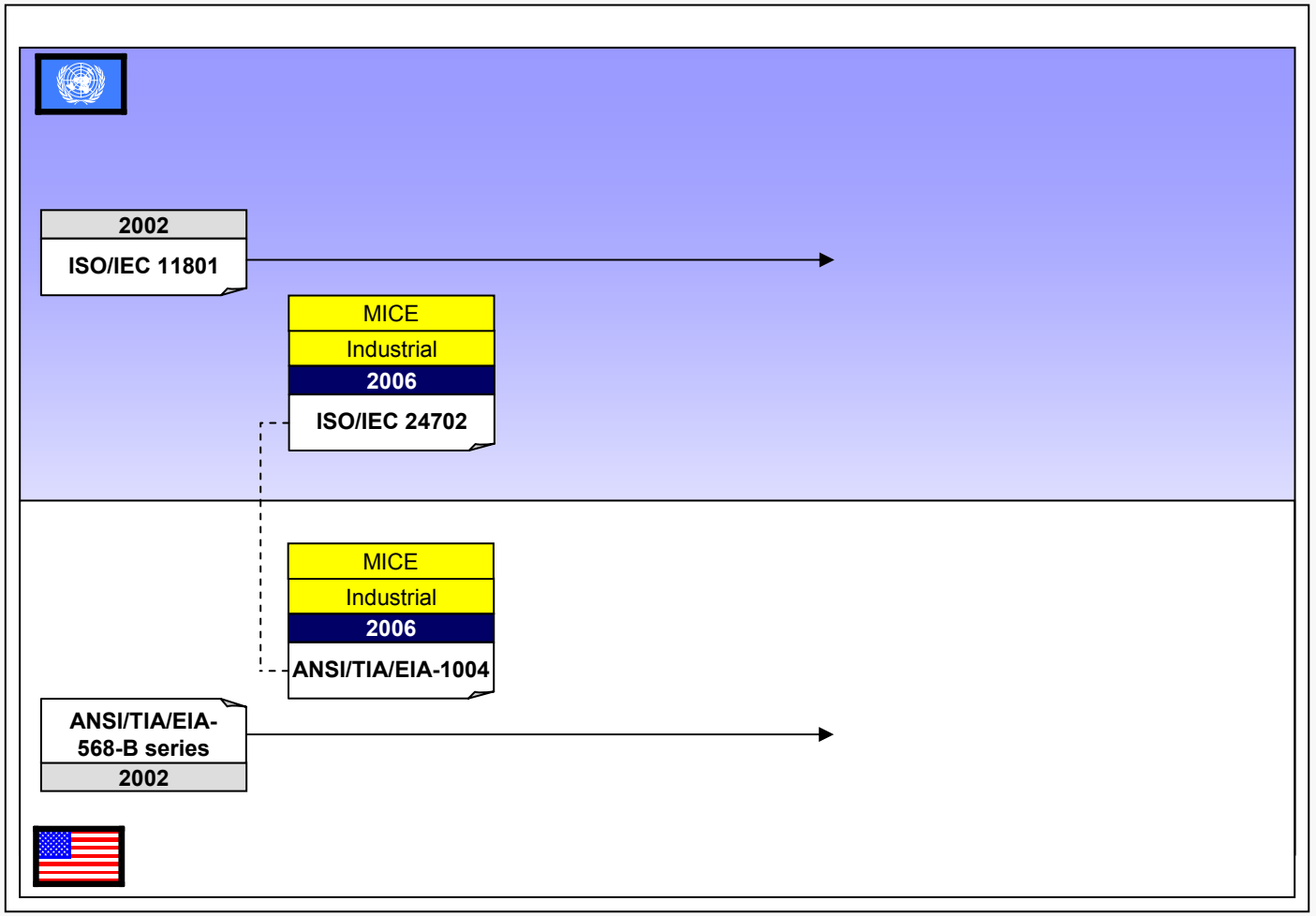
The Immediate Future



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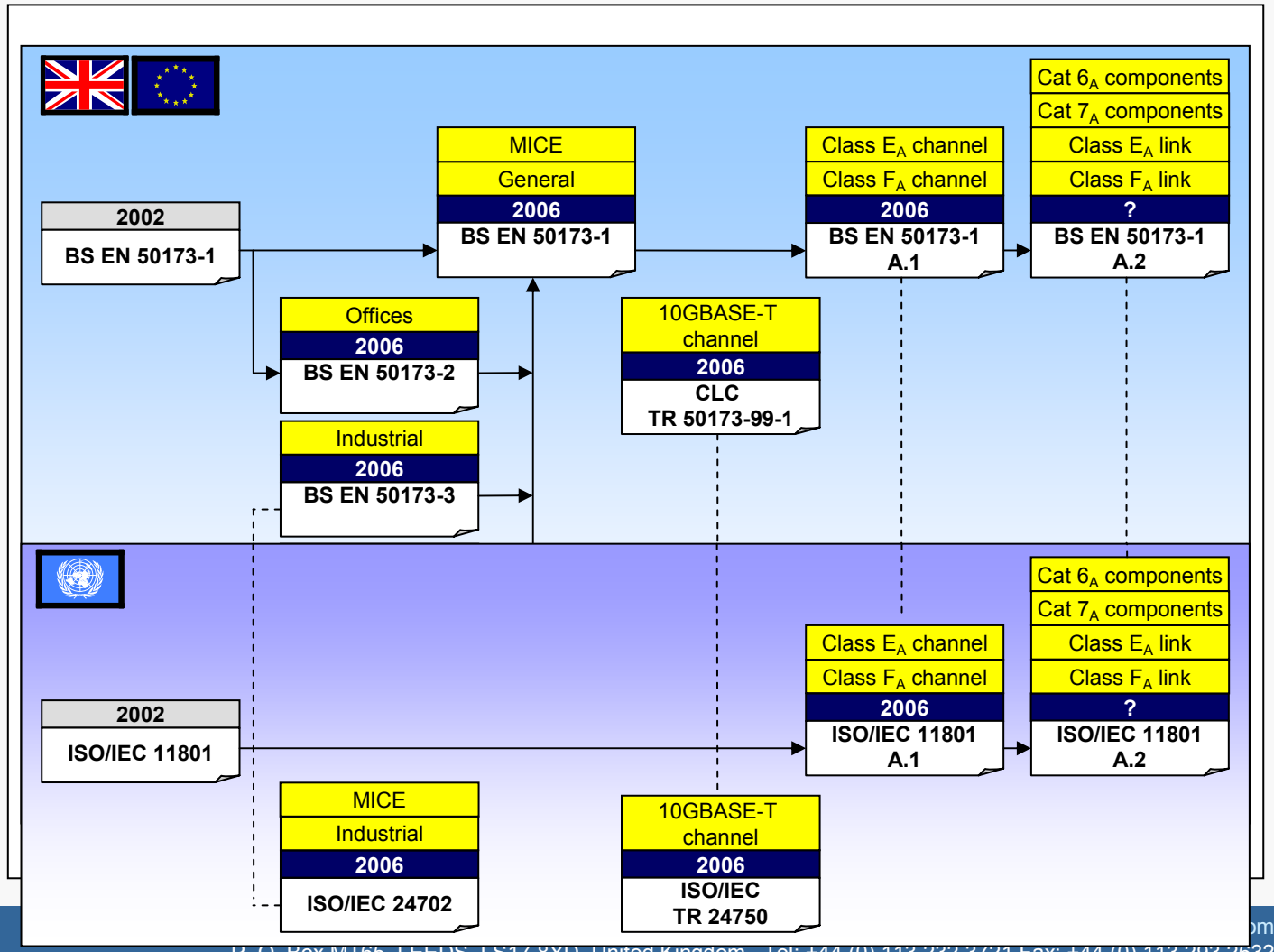
The Medium Term



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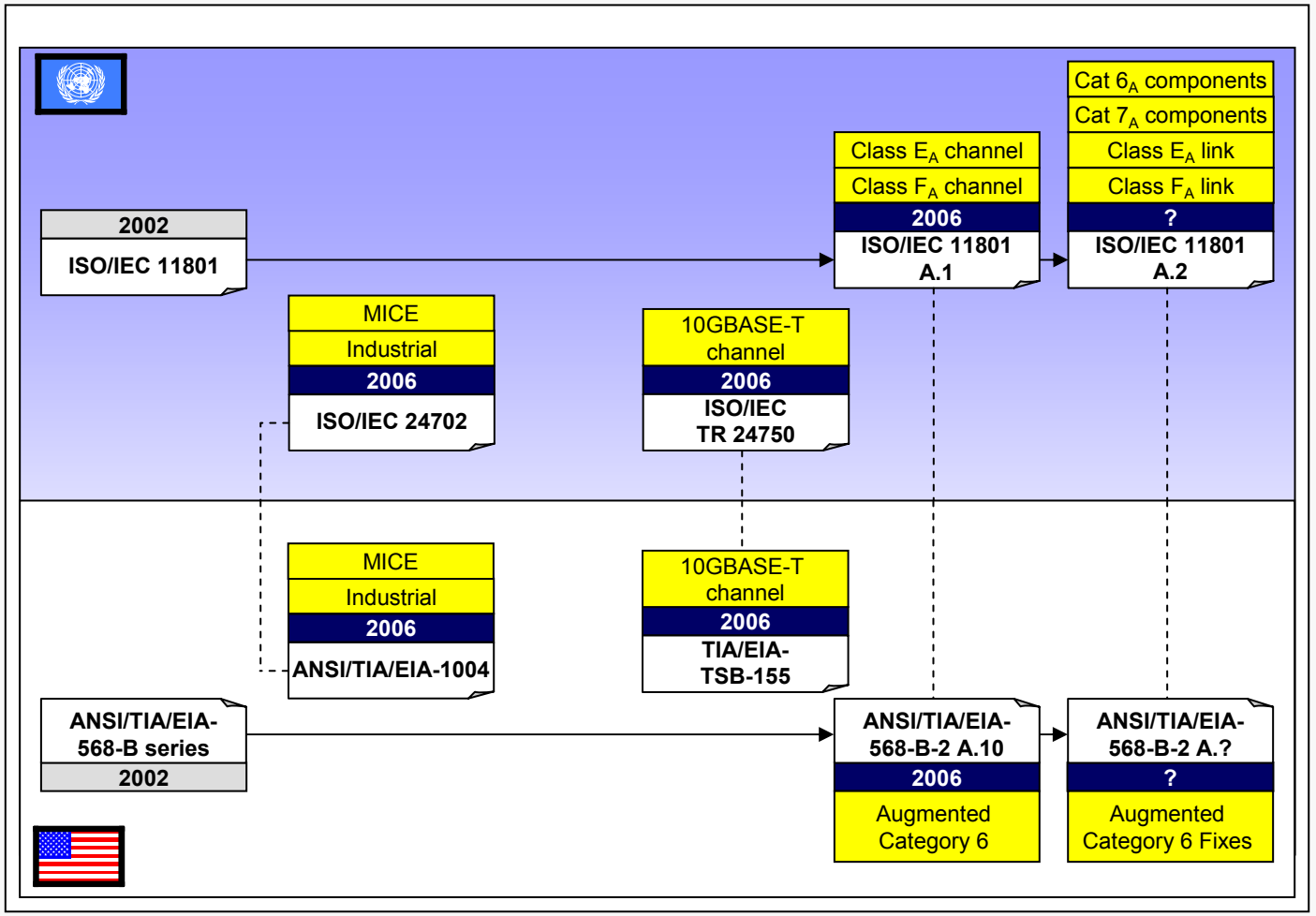
The Medium Term



GETTING THE TELECOMMS INFRASTRUCTURE YOU DESERVE

AUA
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11th JANUARY 2006