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Draka Datacom Solutions March 2009

Extended Portfolio, harmonized range and new brands

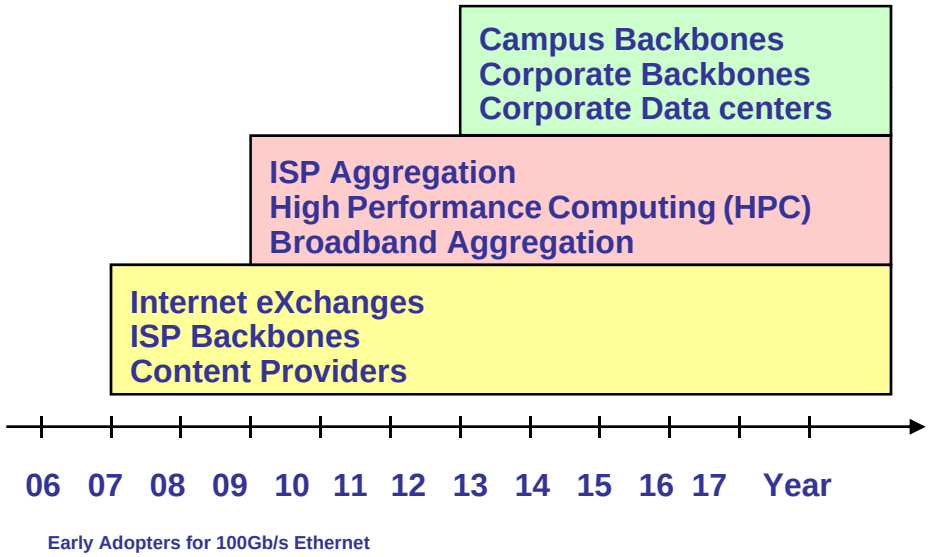
Zoran Borcic **Product Manager Copper Data EMEA**

Datacom Market

- **End users**
- Applications
- 10 GBit with Copper Data Cables
- The “new” Draka Data Centre brand
- Draka Copper Data portfolio
- Multimedia cable solution
- New harmonized Draka OFC Data brand

Facts & figures on Information Management

- Average company had 120 Terabytes of customer data in 2005
- This is equivalent to 4,560 miles of full traditional filing cabinets
- Corporate Email traffic forecast to double between 2006 & 2007
- 64.9 million Email messages in 2006 to be 120 million by 2009
- E-mails now carry complex & storage-demanding attachments estimated that 1 in 17 Emails are stored for a significant time
- 75% corporate intellectual property contained in Email messages



How do Endusers purchase their Infrastructure?

Main Routes to the Customer

End-users source through public tenders

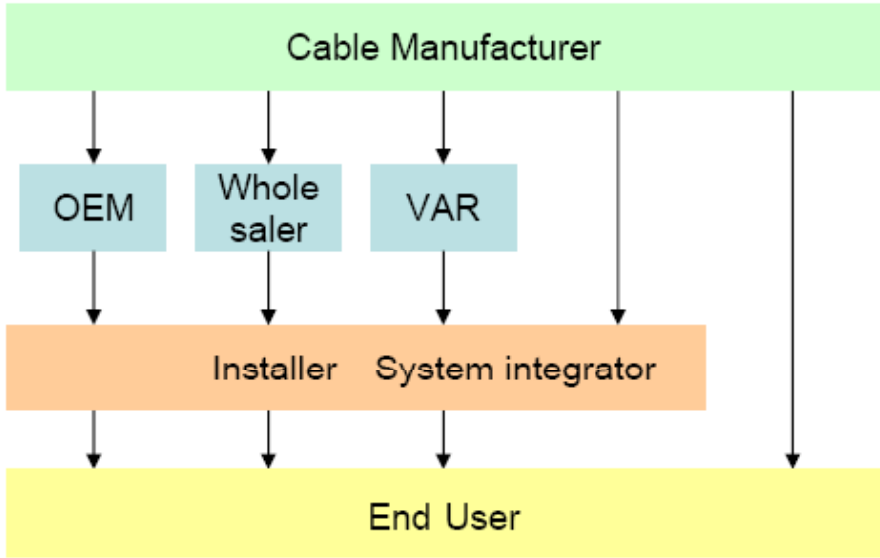
Installers / contractors sell the whole network

Main route is country dependant

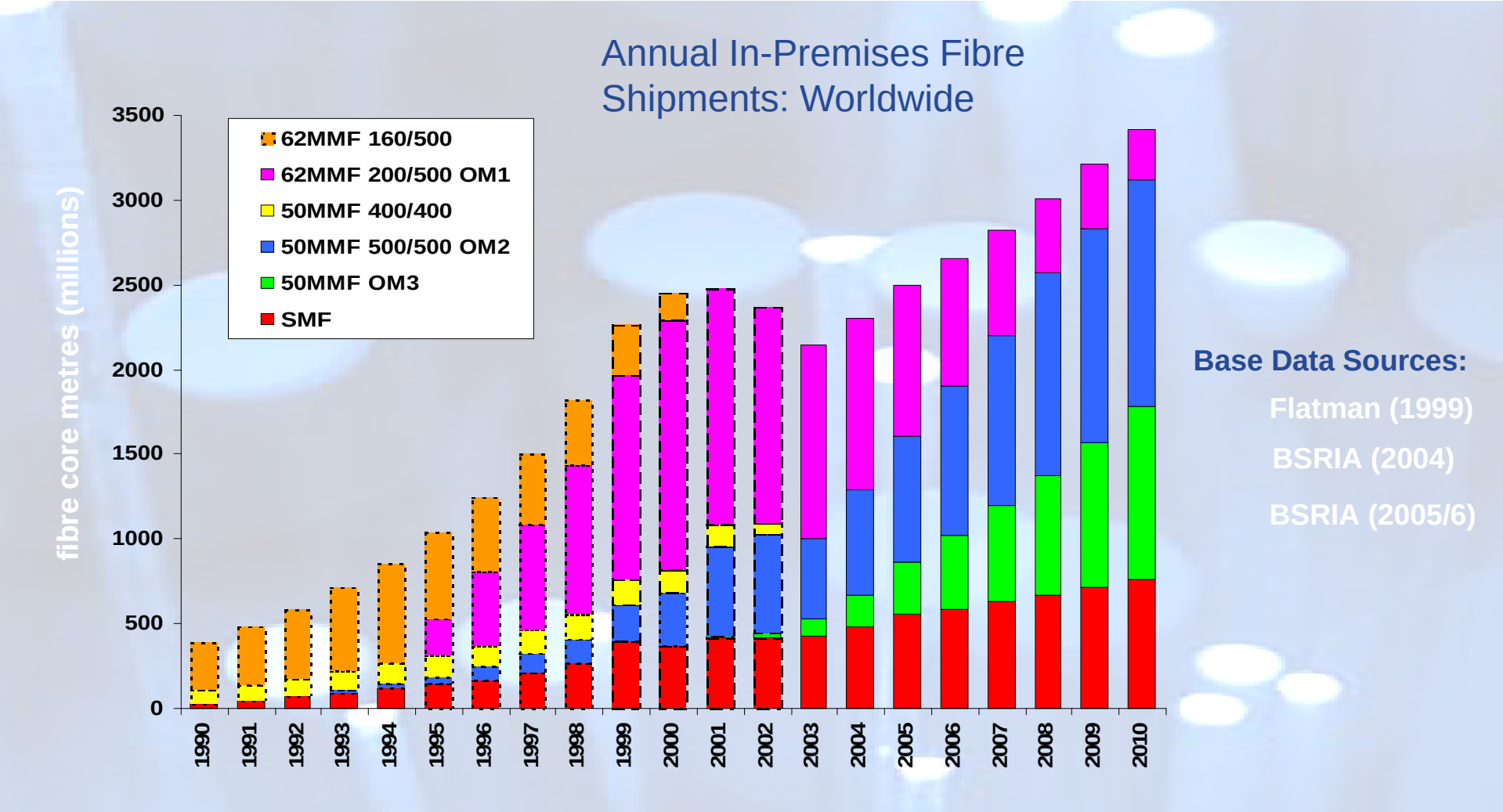
- UK, CH: OEM >50%
- D, A, F, NL, Scandinavia: WS >50%-75%

VAR, i.e. specialized distributors

Very seldom direct sourcing from cable makers



What business are we in?



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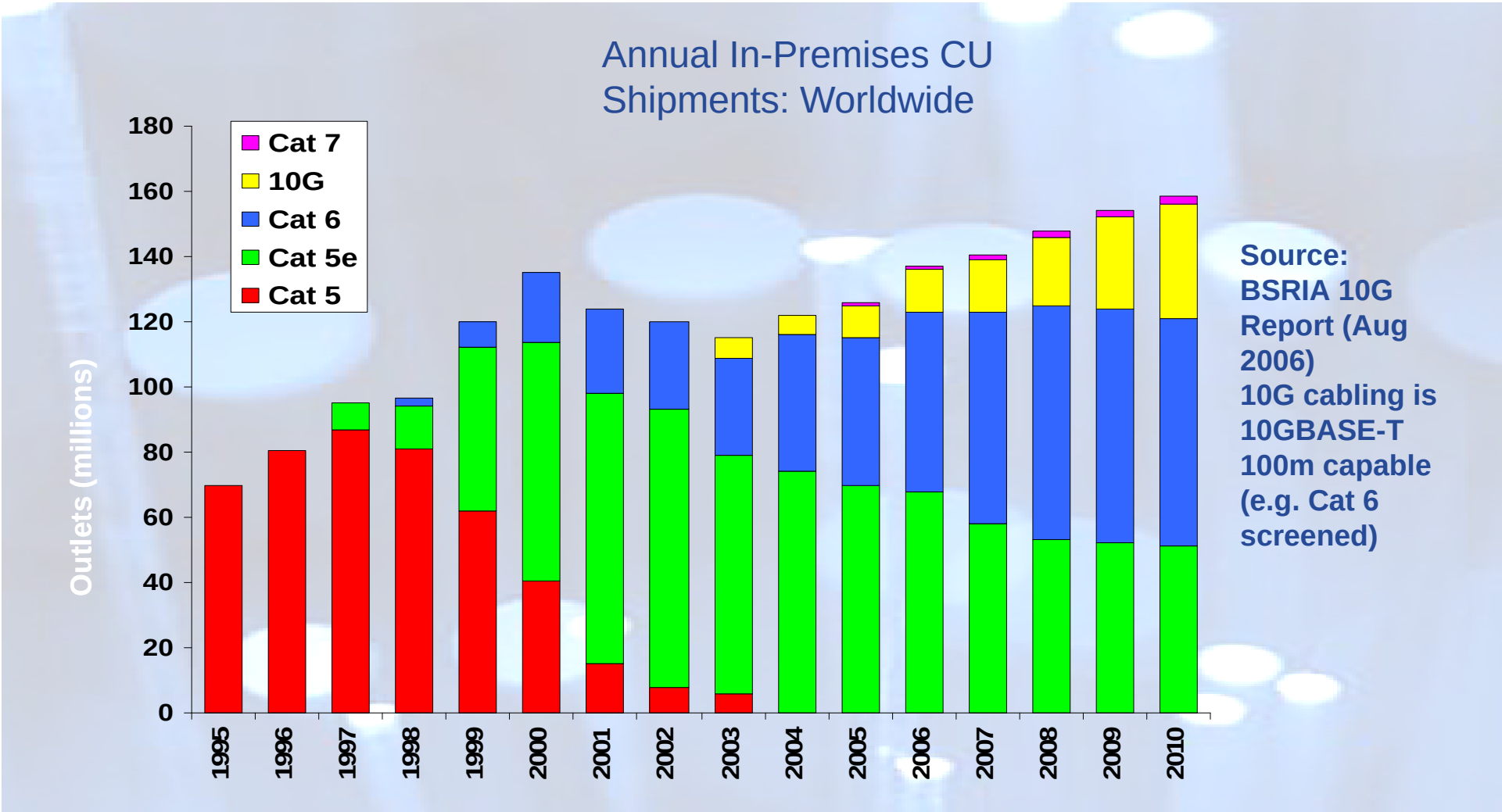


Source: BSRIA 10G Report (Aug 2006)
10G cabling is 10GBASE-T 100m capable (e.g. Cat 6 screened)

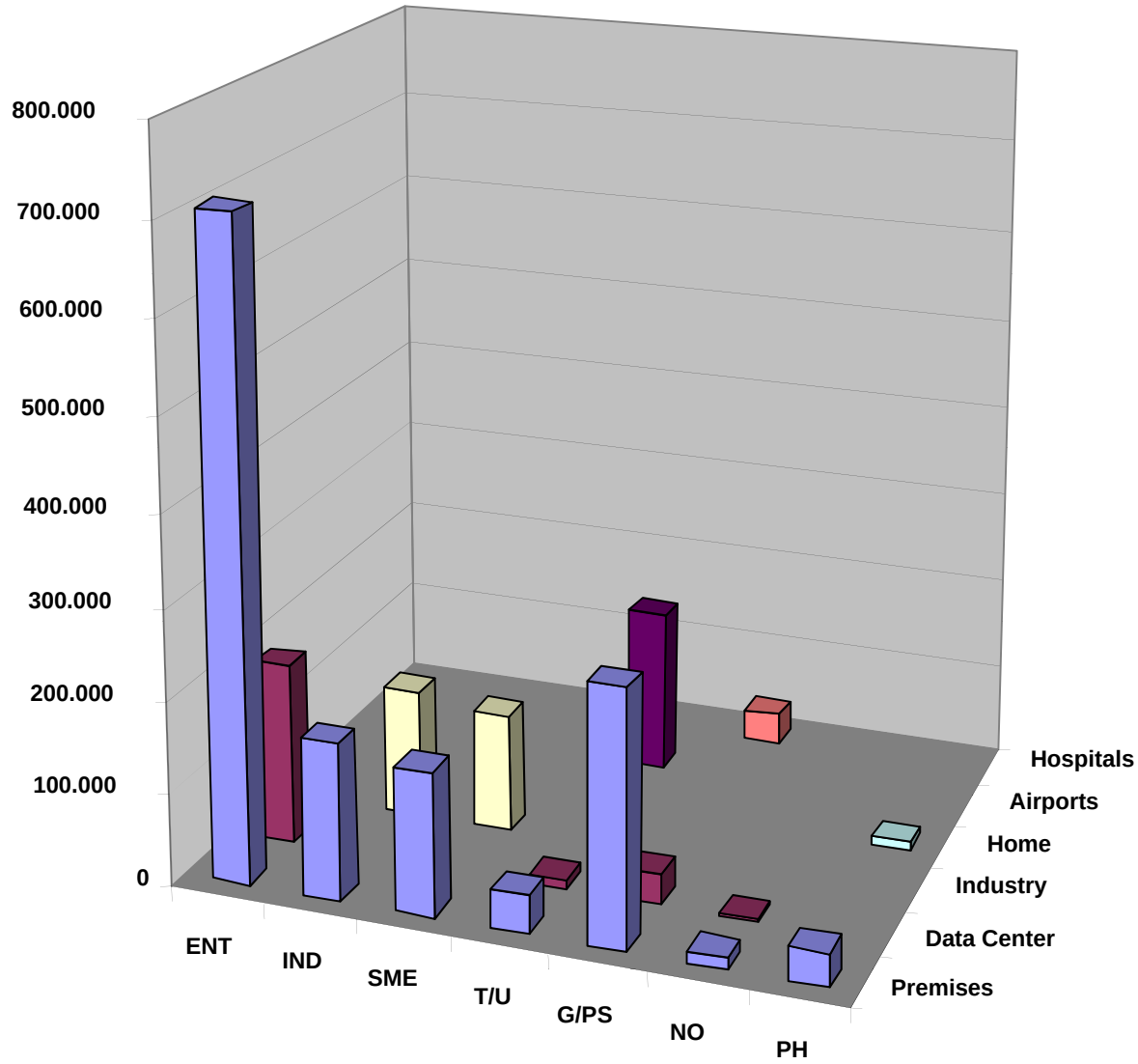
Where is the business allocated?

End user segments

Datacom end-users can be found in all market segements

Enterprise is the biggest one and birthplace of leading edge solutions

Second largest segment G/PS



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Main Applications of the Network

Data Transmission, i.e. file transfer, E-mail, ERP data

Internal phone services, i.e. voice, fax, mailbox

Internet access through LAN

Gateway to external WAN

Three layers of the Network

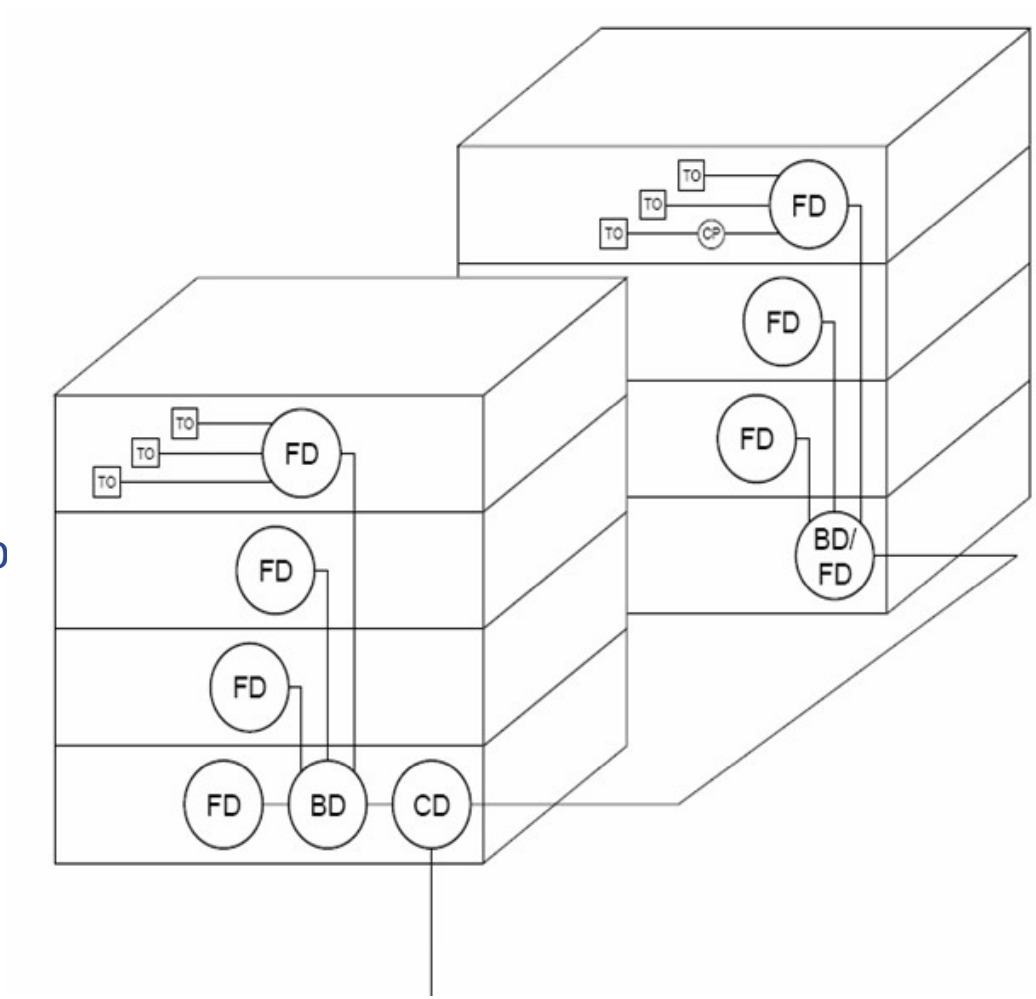
Campus network
- Inside Campus between buildings
- Linked to external WAN

Riser network
- Inside buildings between floo

Horizontal / Floor network
- Inside floors between rooms

Star topology
- Each user got one line

ISO/IEC 11801
- Internationally standardised



Main Network Elements

- Fibre optic cable for campus and riser use
- Fibre optic cable in few cases for horizontal use (< 2%)
- Twisted pair cable for horizontal use
- Twisted pair cable for work area and patch cords
- Patch panels in the campus and floor distributors
- Wall outlets in the office rooms
- Wireless-LAN distribution points
- Racks, closures and splicing boxes
- Cable trays
- Electronics (routers, switches, hubs, gateways...) based on IEEE802.3
- Power devices, cooling and air conditioning

Basic Technologies Applied

- Copper data cables (Draka product) ✔
- FO data cables (Draka product) ✔
- Copper bundled cables (for indoor POTS only) (Draka product) ✔
- Wireless radio (WiFi acc. to IEEE802.11) (Non-Draka product) ✕ ✔

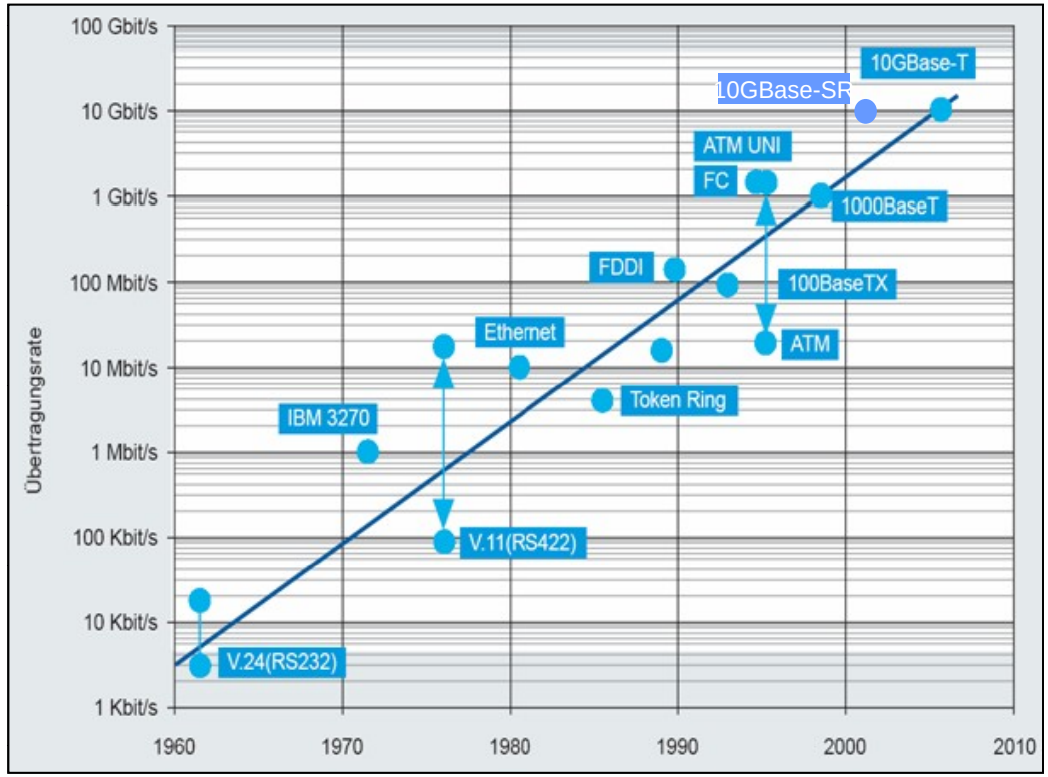
Application Trends

- Data transmission rate grows by 10 in seven years
- Price decline of electronics makes it attractive to change to higher speed

(Product live cycle 5 years for electronics)

- Higher data rate requires higher network performance
- Higher product categories needed

(Product live cycle 15 years for cables)



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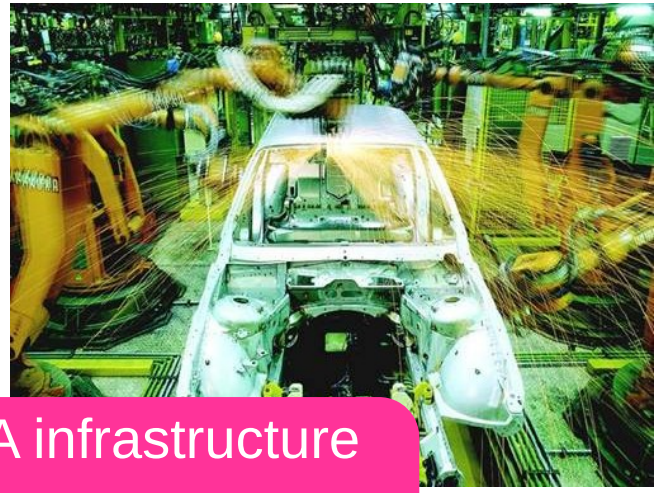
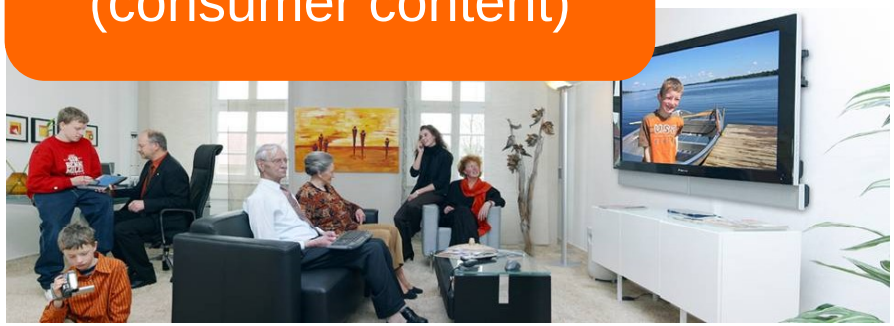
Emerging applications in Datacom infrastructure

Data center cabling
(business content)



SCADA infrastructure
in industrial networks
(business content)

Hotels-Airports-Hospitals
(multiple business
and consumer content)



Home networks
(consumer content)

Data center cabling

- Server backplane linkanges
- Server-switch connections
- Connections to storage area
- High-speed computing or highly aggregated data traffic from bigger user community

End-user need: process communication (SCADA)

Industrial cabling (SCADA)

- Supervisory of industrial manufacturing
- Control of processes, linkage of in-line control devices, and
- Data acquisition, i.e. quality assurance
- Generally data rate is low, but real-time critical

End-user need: Entertainment and Living

- Broadcast TV,
- Pay-TV, VoD, IP-TV
- Voice (and Fax) services
- Internet access through WLAN router

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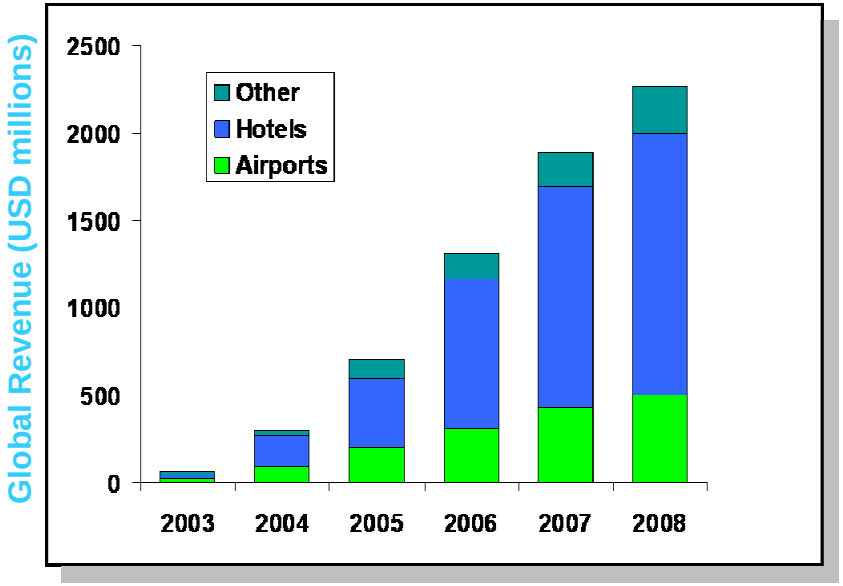
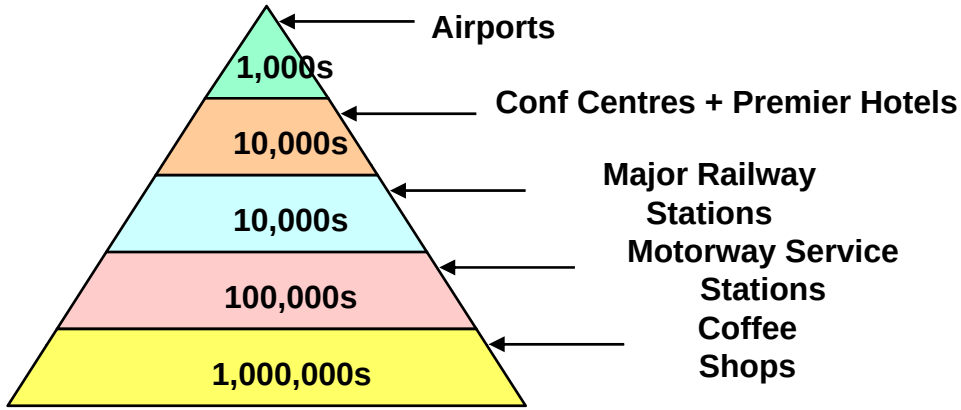
End-user need: Entertainment and Living

Hotels – Airports - Hospitals

- Hot Spots to grow 25% worldwide in 2007
- 179,500 Hot Spots deployed by end 2007
- 72% sites in North America + Europe
- Europe market leader with >70,000 sites
- 900,000 Access Points shipped during 2007 specifically for use in Hot Spots





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10 GbE Applications

Application	10GBASE Fiber (802.3ae)	10GBASE-T	10GBASE-CX4 (802.3ak)
Data Center Server Clustering	Yes	**Yes**	Yes (< 15m)
Horizontal In Building (inc. wiring closet)	No	Yes	No
Vertical (Risers BB Links) Within Building	Yes	No	No
Campus & Metro	Yes	No	No

Source: IEEE802.3

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Future office cabling

ISO/IEC JTC1 SC25 WG3:

ISO/IEC 11801 Amendment 1.1(2006)

1. New Classes
2. New definition

Replace:

Class E is specified up to 250 MHz.

Class F is specified up to 600 MHz.

By:

Class E is specified up to 250 MHz.

Class E_A is specified up to 500 MHz.

Class F is specified up to 600 MHz.

Class F_A is specified up to 1 000 MHz.

Paramter

AFEXT	Alien FEXT
ANEXT	Alien NEXT
ELTCTL	Equal level TCTL
PS AELFEXT	Power sum alien ELFEXT
PS AFEXT	Power sum AFEXT
PS ANEXT	Power sum ANEXT

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Future office cabling

ISO/IEC JTC1 **SC25** WG3:

Cabling	Supported Link Distances
Class E / Cat 6 unscreened	up to 55m
Class E / Cat 6 screened	100m
Class F / Cat 7 (screened)	100m
new Class E / Cat 6A (unscreened)	100m

new type of UTP with improved alien crosstalk performance

Important parameters

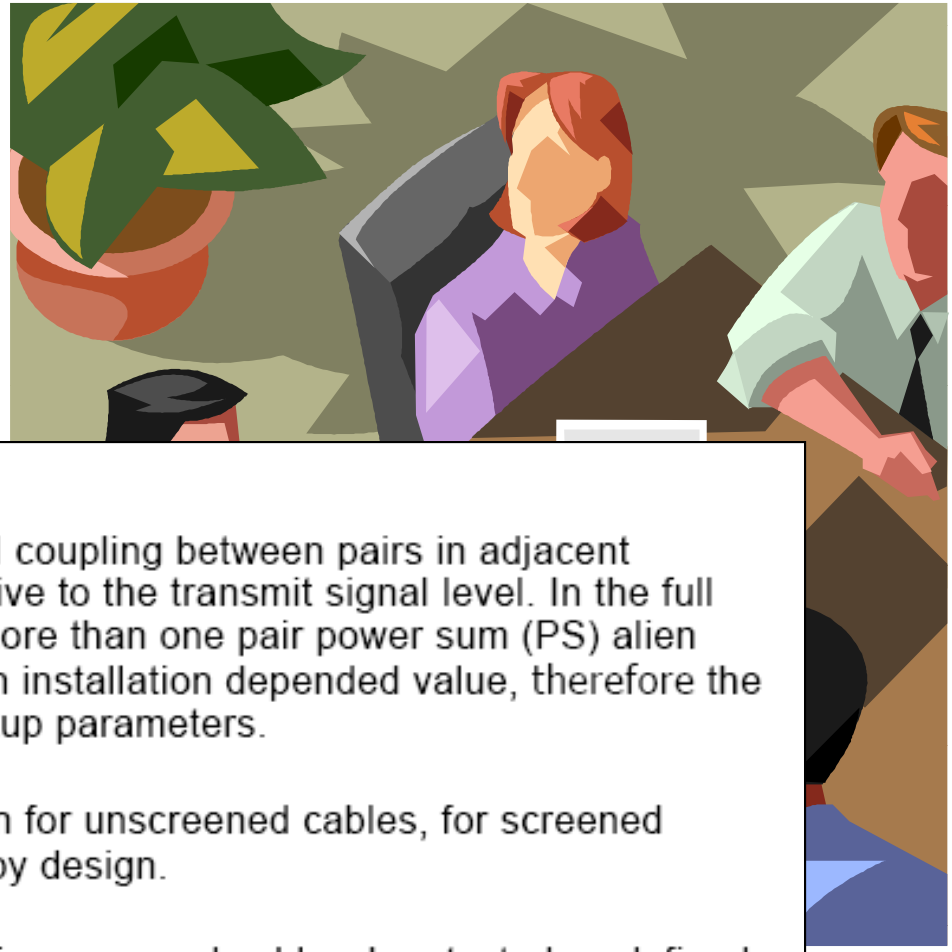
Traditional

Attenuation

Crosstalk, NEXT

ACR

PSNEXT



3.3.10 Alien crosstalk

Alien crosstalk is a measure of the unwanted signal coupling between pairs in adjacent cables. The alien crosstalk is expressed in dB relative to the transmit signal level. In the full duplex application the signal can be disturbed by more than one pair power sum (PS) alien crosstalk may be provided. The alien crosstalk is an installation depended value, therefore the required limits are defined with test method and setup parameters.

Alien crosstalk is only a measurement consideration for unscreened cables, for screened cables the alien crosstalk is considered as proven by design.

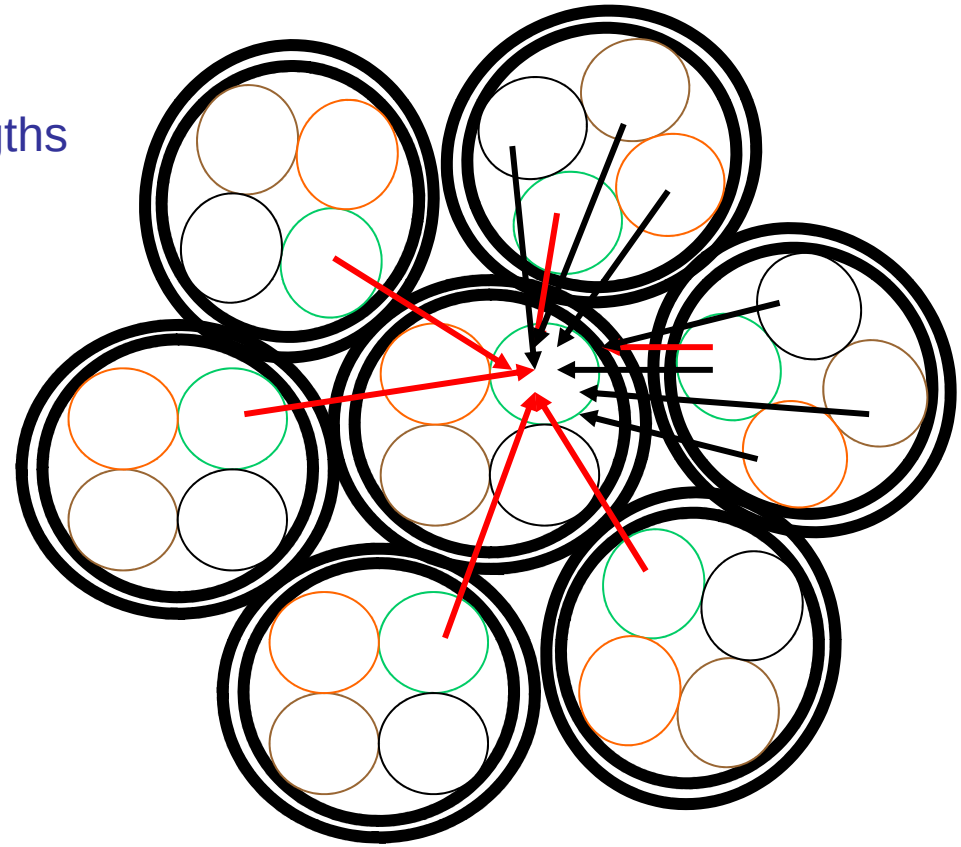
The PS ANEXT (Power Sum Near End crosstalk) of unscreened cable when tested as defined in 6.3.7.2 of IEC 61156-1 shall not be less than the values obtain from Table 13

Alien crosstalk between Cables

PSAlien NEXT measurements
Red: largest crosstalk, same lay lengths
For one pair – 6 measurements

Black: additional crosstalk
For one pair – 18 measurements

For one cable 96 measurements!



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Future office cabling

Proposal for A-Xtalk testing

-Four cables on wooden drum

-Low space consumption

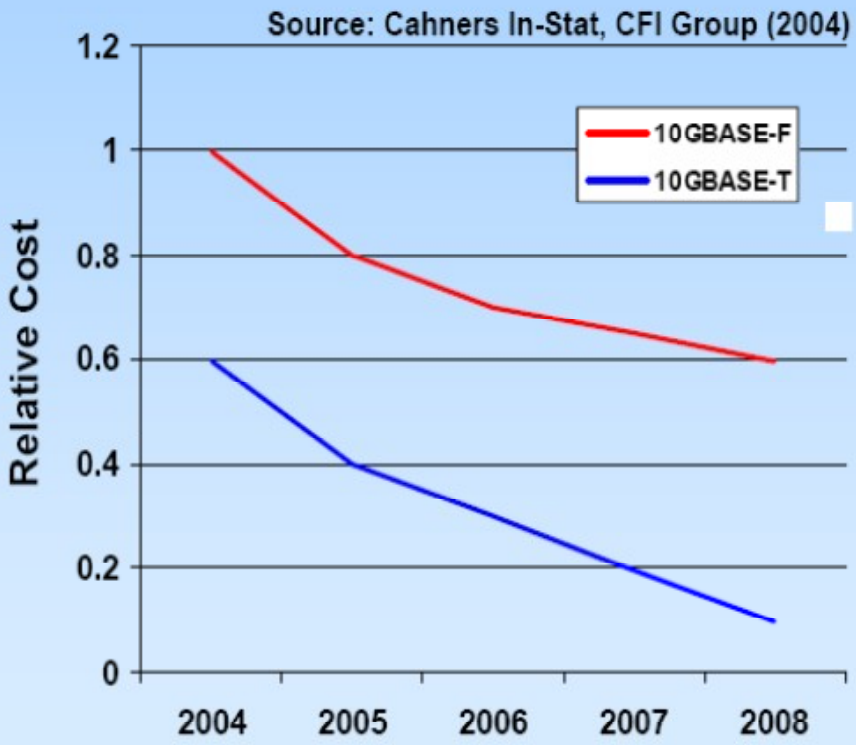
-Little cable volume needed

-Easy handling

-Well re-producible

-Results similar to 1+6 test.

10GBASE-T vs 10GBASE-fibre



- 10GBASE-SR NIC+switch port average cost $5k (Yankee Group)
- 10GBASE-LX4 NIC+switch port average cost $6k (Yankee Group)
- 10GBASE-T NIC+switch port cost expected to be in range $1k - $2k 2006-2007 (Yankee Group)

Market Forecasts

over 700.000 10GBASE-T ports are expected to be shipped in 2006
(Dell?Oro, Januar 2004)

10 GbE installed base will jump to 550.000 in 2007
(Gartner, August 2004)

10GBASE-T market value is expected to lean to $3,300 in 2009

- (Communications Industry Researchers Inc, Dezember 2004)

Cable design options

Take fibre!

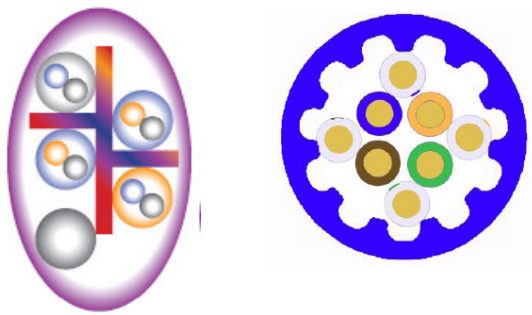
- OM3 is a proper solution, but not an option for TP cables

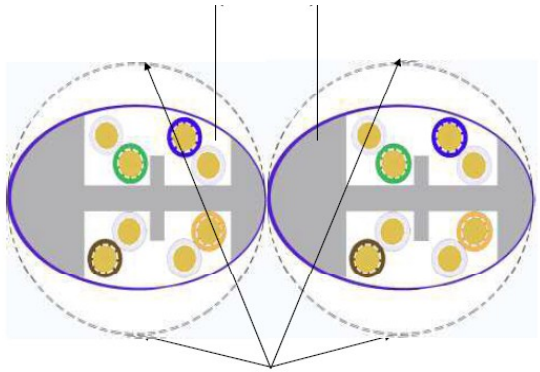
STP

- shield it! Available and well defined as Cat.7 cable

UTP

- Increase distance of the pairs
  - Thicker jackets;“Strange” spacers





or…

– combination of the benefits from UTP and STP…

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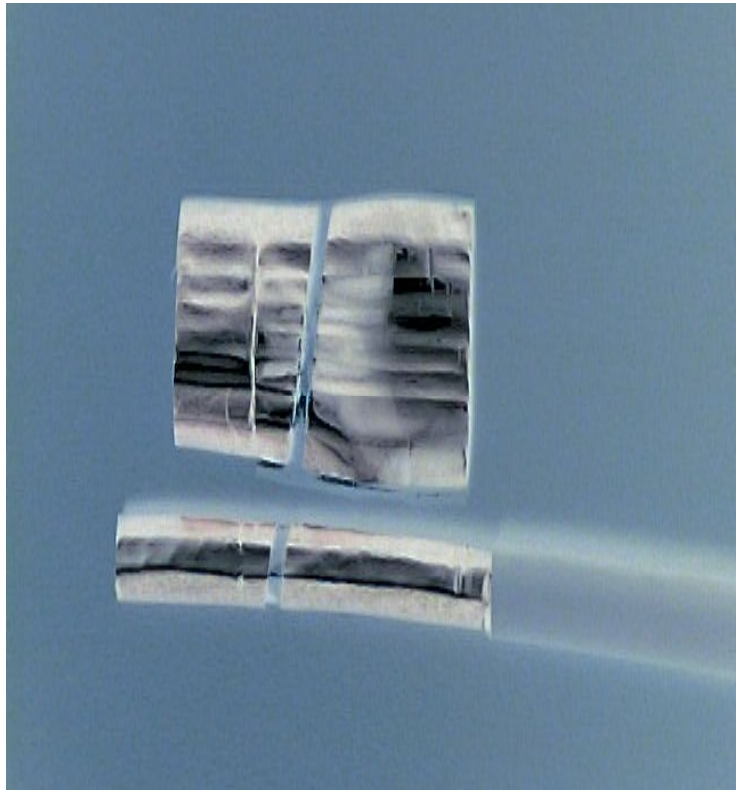
ZEBRA–Technology
Zero Earthloop By Reflectorfoil Application)

UC500 U/UTP:

- Cable for 10 GbE
- No LF earth loops
- Good shield against electrical fields
- Not much worse against magnetic fields
- than a continuous foil avoids the aliens' attack
- Avoids additional investments into the electrical system.



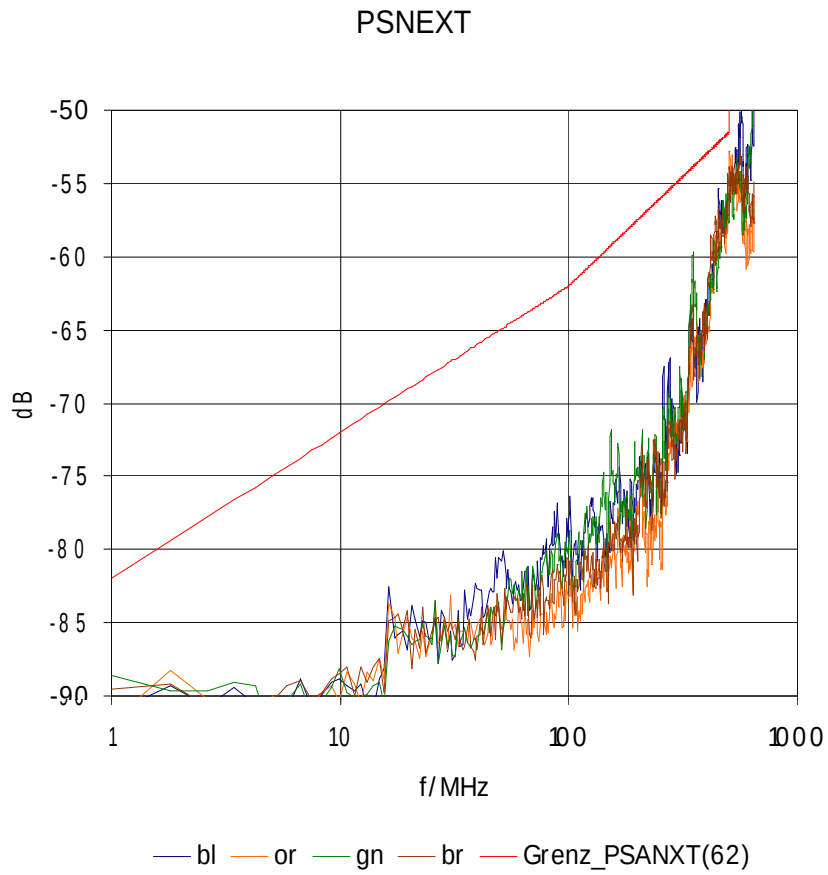
PSExNEXT

4x UC500 U/UTP

PS Alien NEXT between 4 adjacent Cat.6a U/UTP cables in a 100m channel and calculates to a 6 cable situation

Result:

PS-ExNEXT has headroom of at least 5-20 dB



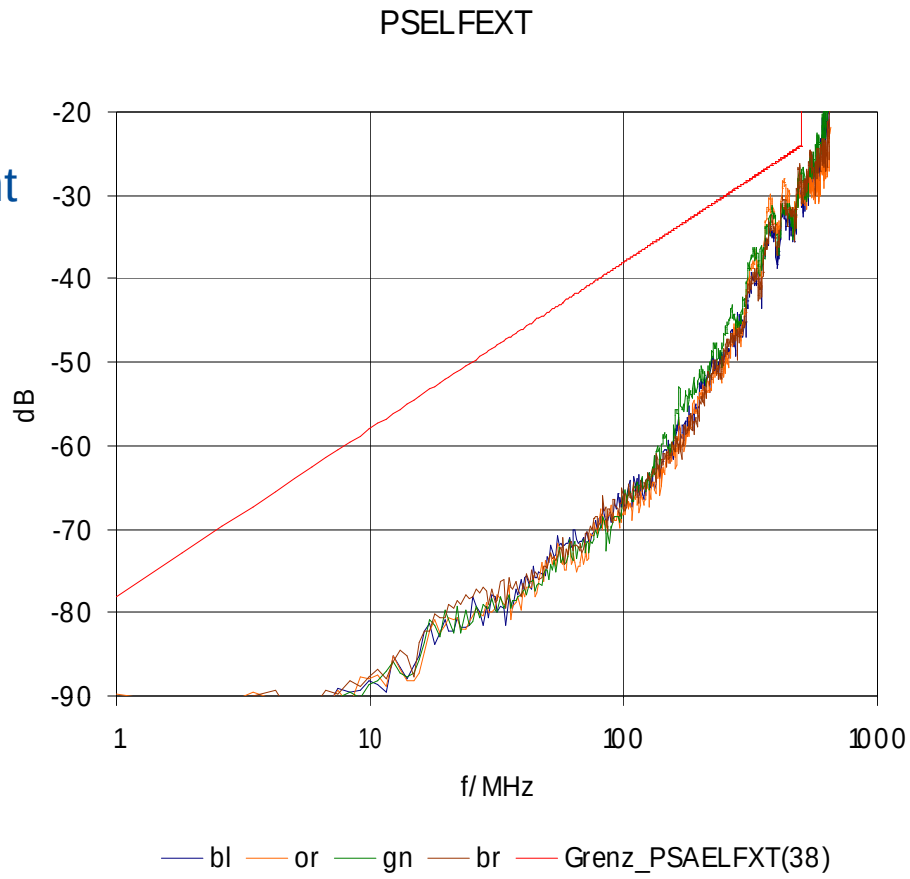
PSExELFEXT

DUT: 4x UC500 U/UTP

PS Alien ELFEXT between 4 adjacent Cat.6a U/UTP cables in a 100m channel and calculates to a 6 cable situation

Result:

PS-ExELFEXT has headroom of at least 5-15 dB



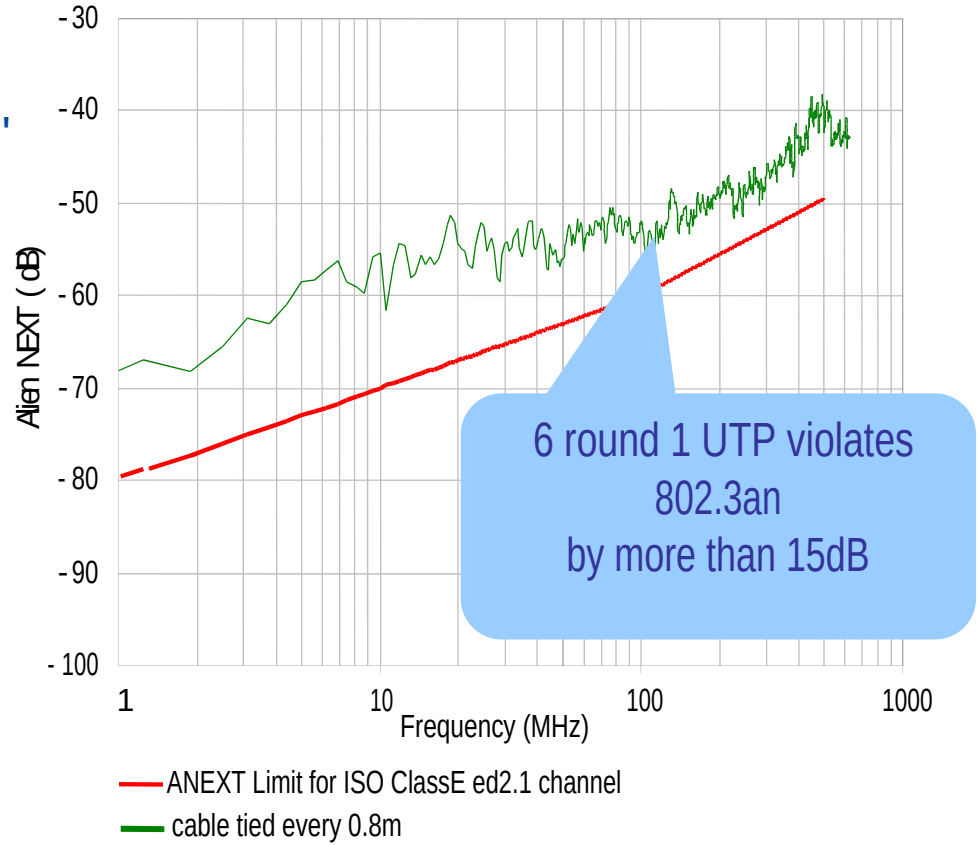
UTP and Alien NEXT

DUT: 1+6 UTP (old)

PS Alien NEXT between centre 'victim' Cat.6 UTP cabled in a 100m channel and surrounding 6 others with cables laid out on steel trays

Result:

PS-Xtalk limits were violated by 15 dB and more



Conclusion

UC500 U/UTP is THE solution for traditional UTP markets

It’s fully compatible to established installation methods and existing electrical systems

It enables full channel 10GbE support

and…

It’s powered by Draka

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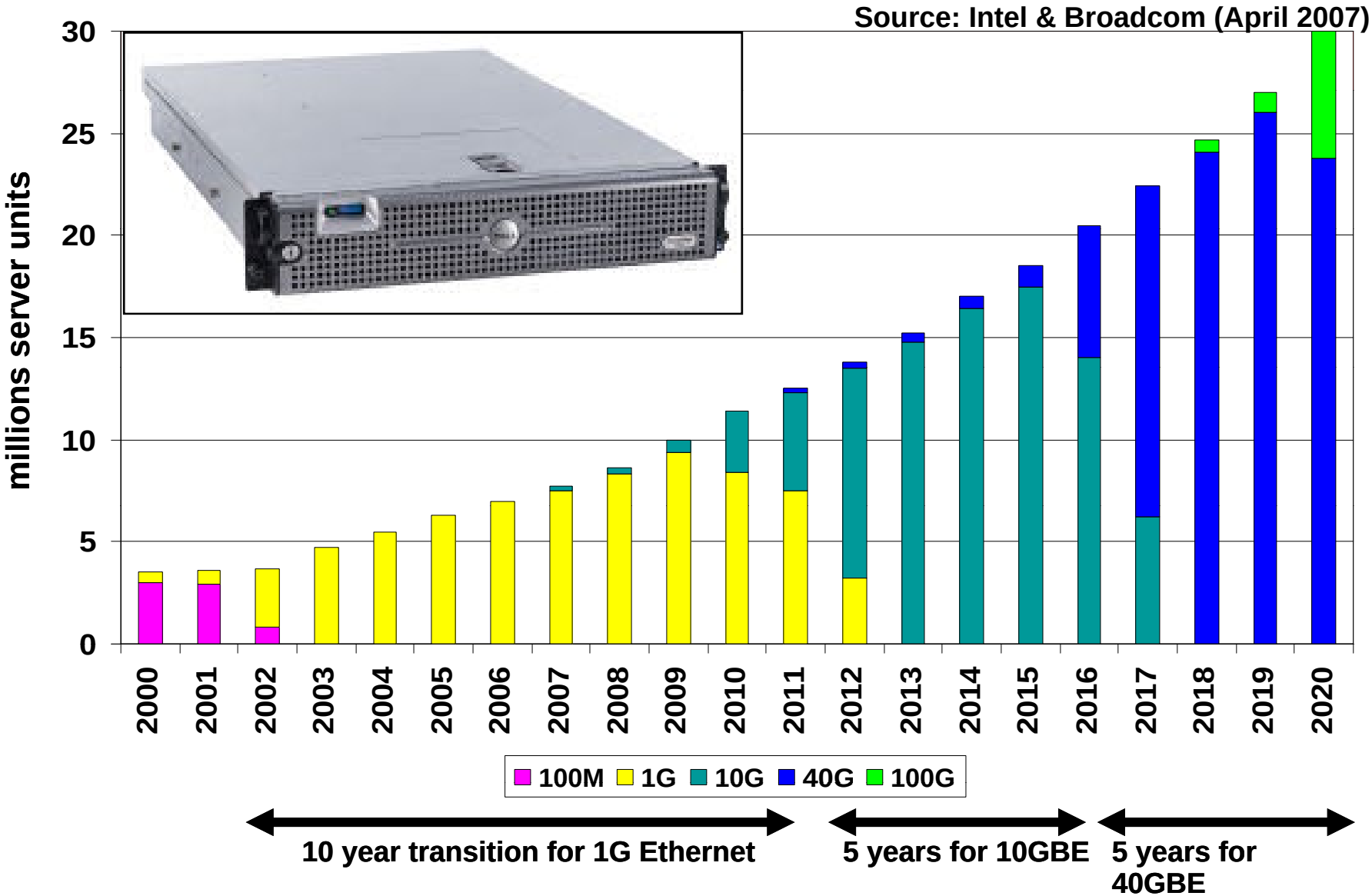
x86 Servers by Ethernet Connection Speed



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Data Centre Cabling Standards

TIA-942: Data Centre Cabling

- captures IT, power, resilience, HVAC, security
- published in 2005
-

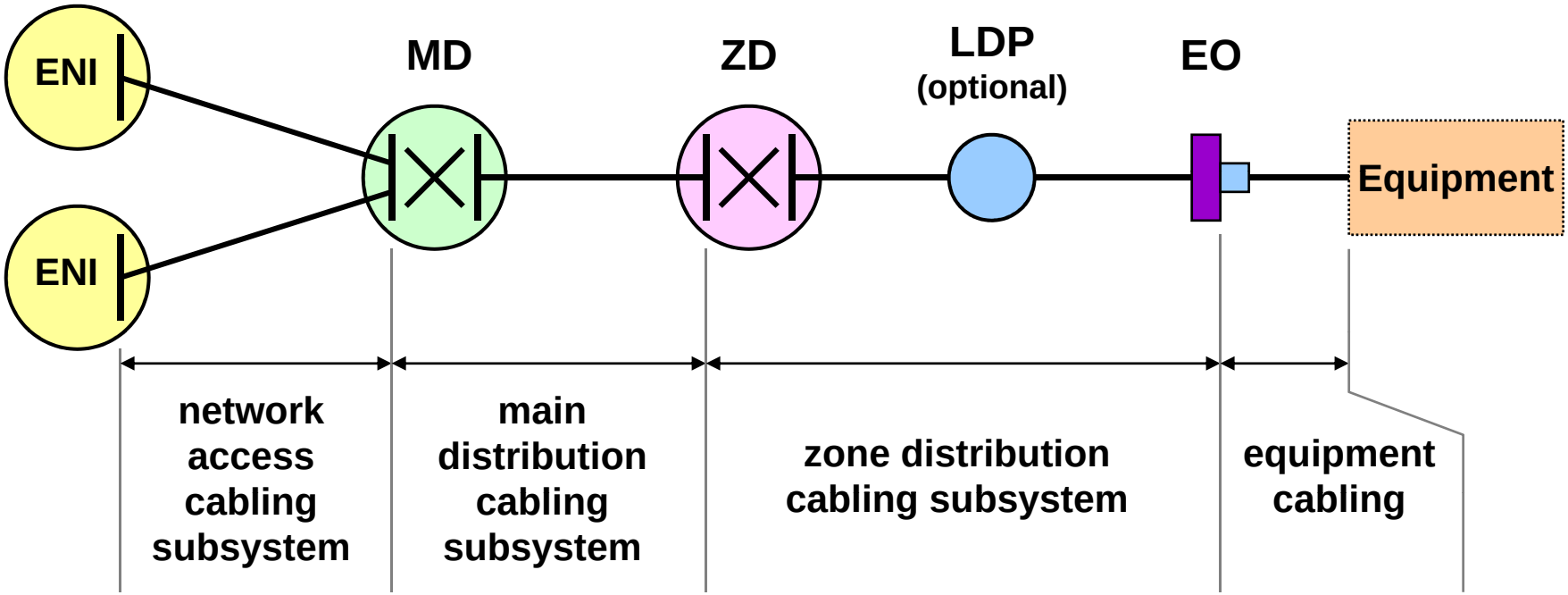
CENELEC EN 50173-5: Data Centre Cabling

- scope is IT cabling only
- approved early 2007
-

ISO/IEC 24764: Data Centre Cabling

- based on CENELEC EN 50173-5
- approval anticipated late 2008

EN 50173-5: Data Centre Cabling Structure



ENI = Equipment Network Interface
MD = Main Distributor
ZD = Zone Distributor
LDP = Local Distribution Point
EO = Equipment Outlet

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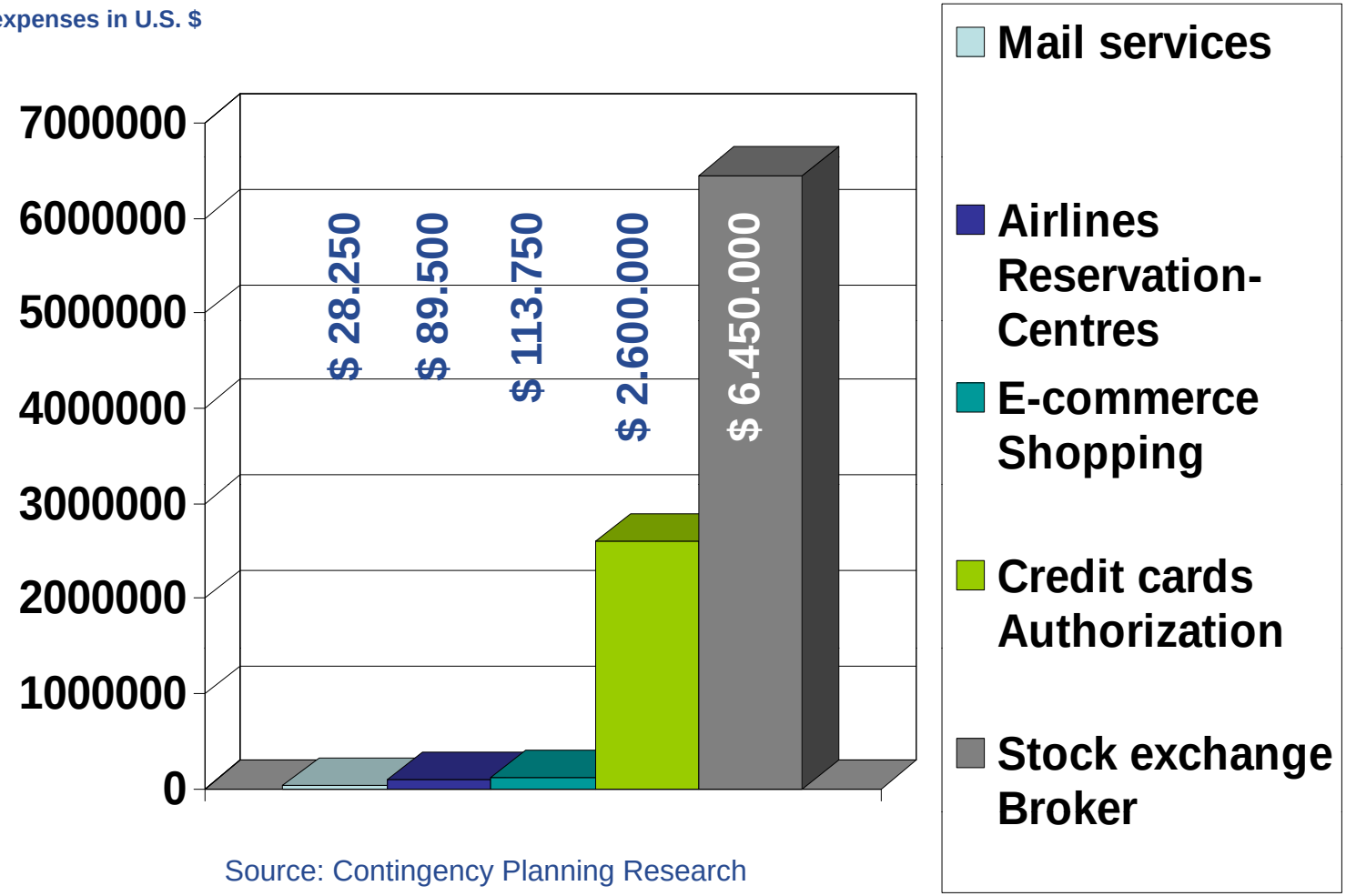
TIER classes

TIA-942 Data Centre Security and Availability

	TIER 1	TIER 2	TIER 3	TIER 4
Delivery Paths	1	1	1 Active/ 1 Passive	2 Active
Redundant Components	N	N+1, (N+x)	2N	2 (N+1)
Support space to floor ratio	20%	30%	80-90%	100%
Ultimate Watts/ft^2	20-30	40-50	100-150	150+
First year deployed	1965	1970	1985	1995
Annual IT Downtime due to Site	28.8 hrs	22.0 hrs	1.6 hrs	0.4 hrs
Site availability	99.671%	99.749%	99.982%	99.995%
Power Support	UPS	UPS + Gen	UPS + Gen	UPS + Gen
Critical Path Support Requires	Shutdown	Shutdown	Auto	Auto
Redundant Components	Maybe None	Systems	Systems and Power some others	All
Cost per square foot	$450	$600	$900	$1,100+
Based on information from the Uptime Institute				

Zero Downtime in Data Centre...is a must!

Hourly expenses in U.S. $



Source: Contingency Planning Research

EN 50173-5: Data Centre Cabling Overview

- Class E_A minimum performance balanced copper channel
- OM2 or OM3 fibre specified but OM3 fibre is recommended
- optional links allowed between LDPs for added resilience
- duplex LC SFF connector specified for use at the ENI
    - telecom services require >55dB return loss for SMF
- duplex LC SFF connector specified for use at the EO
- RJ-45 Cat 6 connector adopted for use at EO with 4 pairs
- *Terra* & RJ-45 Cat 7 connectors for use at EO with 4 pairs

UC^{FUTURE}, new Draka Data Centre Brand

Draka UC = Universal Cabling

The brand for Datacom applications

UC300 – UC1500

Copper Data cable

Cat.5e

Cat.6

Cat.6$_A$

Cat.7

Cat.7$_A$

MULTIMEDIA

UC^{FIBRE}™

Fibre Data cable

MMF

SMF

UC^{FUTURE}™

Data Centre cable

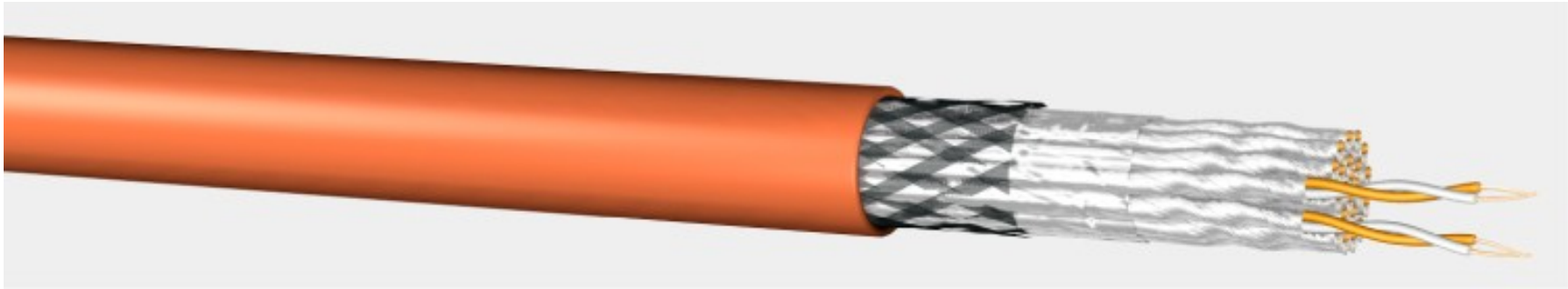
CU

MMF

SMF

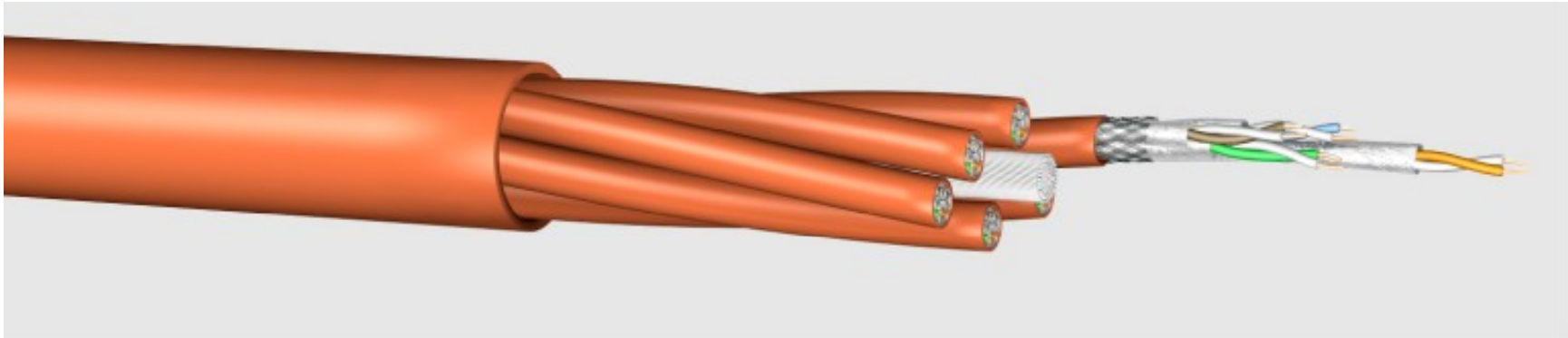
UC^{FUTURE}, new Draka Data Centre Brand

UC^{FUTURE} COMPACT^{ZD*} 60m channel E_A					
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 4P LSHF	Installation	Cat.7	26	IEC61156-6	4P
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 24P LSHF	Installation	Cat.7	26	IEC61156-6	24P
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 6x4P LSHF	Installation	Cat.6	25	IEC61156-6	6x4P
UC^{FUTURE} LOOMED^{ZD}26 Cat.7 S/FTP 6x4P LSHF	Installation	Cat.7	26	IEC61156-6	6x4P

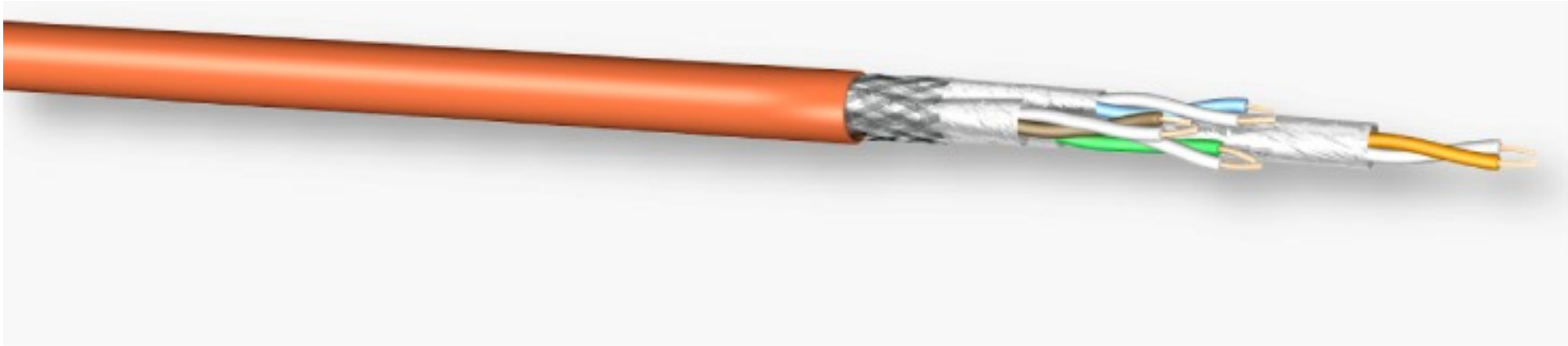


UC^{FUTURE}, new Draka Data Centre Brand

UC^{FUTURE} COMPACT 100m channel E_A					
UC^{FUTURE} COMPACT23 Cat.7 S/FTP 24P LSHF	Installation	Cat.7	23	IEC61156-5	24P
UC^{FUTURE} COMPACT23 Cat.7 S/FTP 6x4P LSHF	Installation	Cat.7	23	IEC61156-5	6x4P
UC^{FUTURE} COMPACT23 Cat.7 S/FTP 8x4P LSHF	Installation	Cat.7	23	IEC61156-5	8x4P
UC^{FUTURE} LOOMED23 Cat.7 S/FTP 6x4P LSHF	Installation	Cat.7	23	IEC61156-5	6x4P



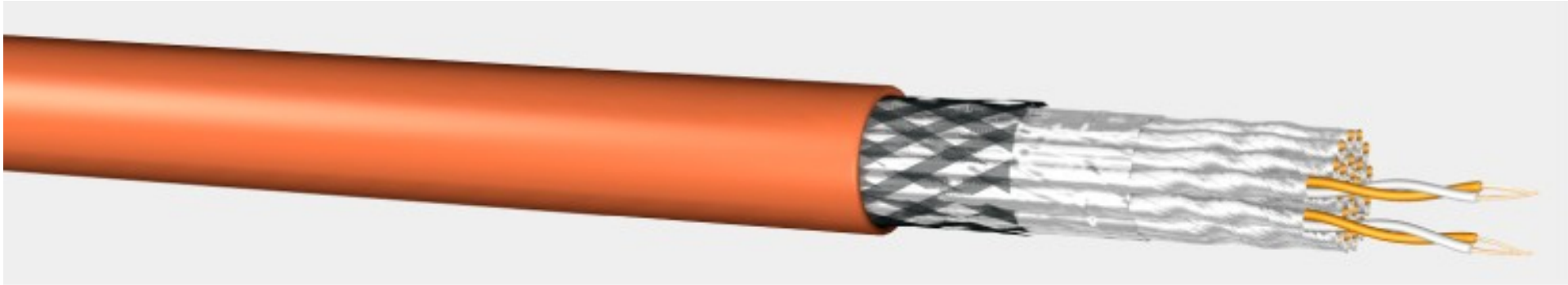
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 4P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened 100 Ohms cable especially for the Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG26 for transmission lengths of maximum 70 meters.

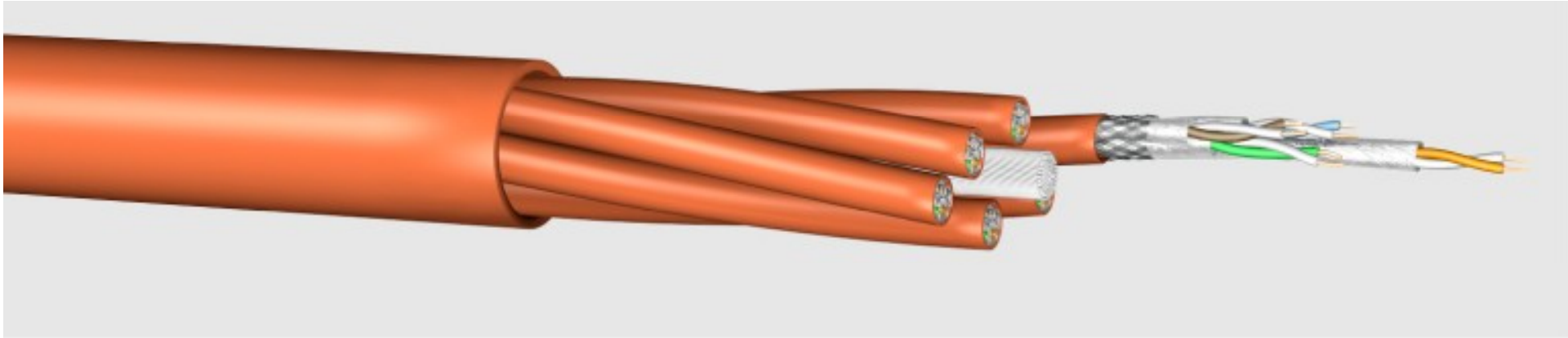
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 24P



Applications:

- Data centre cabling 10Gbit solution
- Screened multipair 100 Ohms cables especially for the Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG26 for transmission lengths of maximum 70 meters.

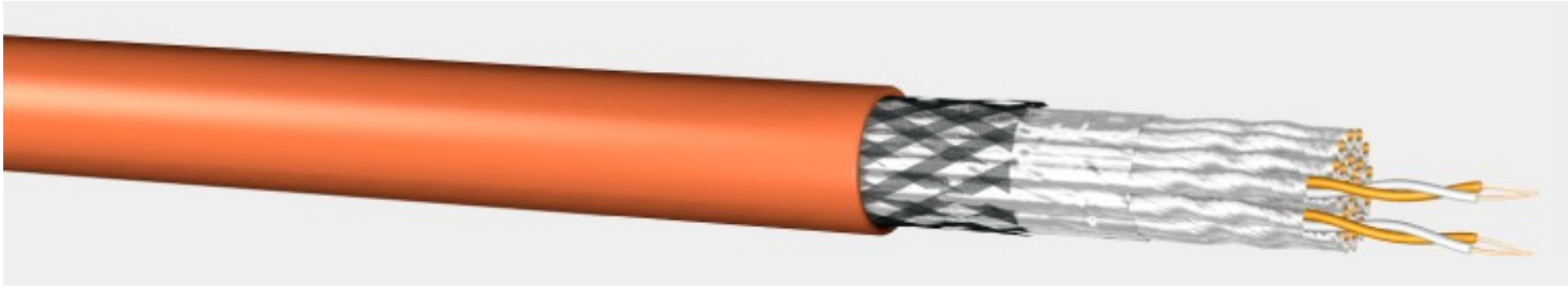
UC^{FUTURE} COMPACT^{ZD}26 Cat.7 S/FTP 6x4P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened 100 Ohms multiple cable especially for Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG26 for transmission lengths of maximum 70 meters.

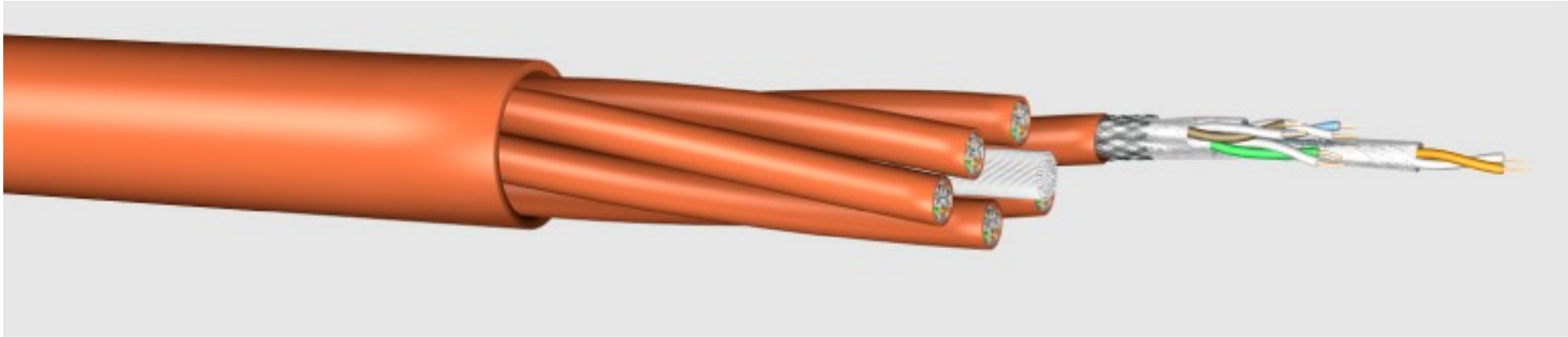
UC^{FUTURE} COMPACT23 Cat.7 S/FTP 24P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened multipair 100 Ohms cable especially for Horizontal Distribution Area, Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG23 for transmission lengths of maximum 100 meters.

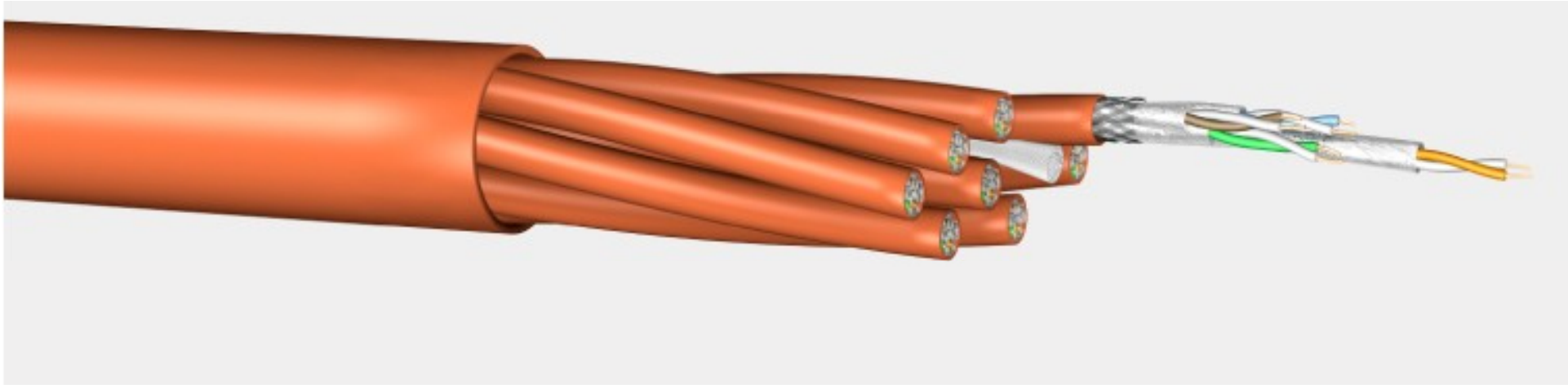
UC^{FUTURE} COMPACT23 Cat.7 S/FTP 6x4P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened 100 Ohms multiple cable especially for Horizontal Distribution Area,
- Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with
  conductor diameter of AWG23 for transmission lengths of maximum 100 meters

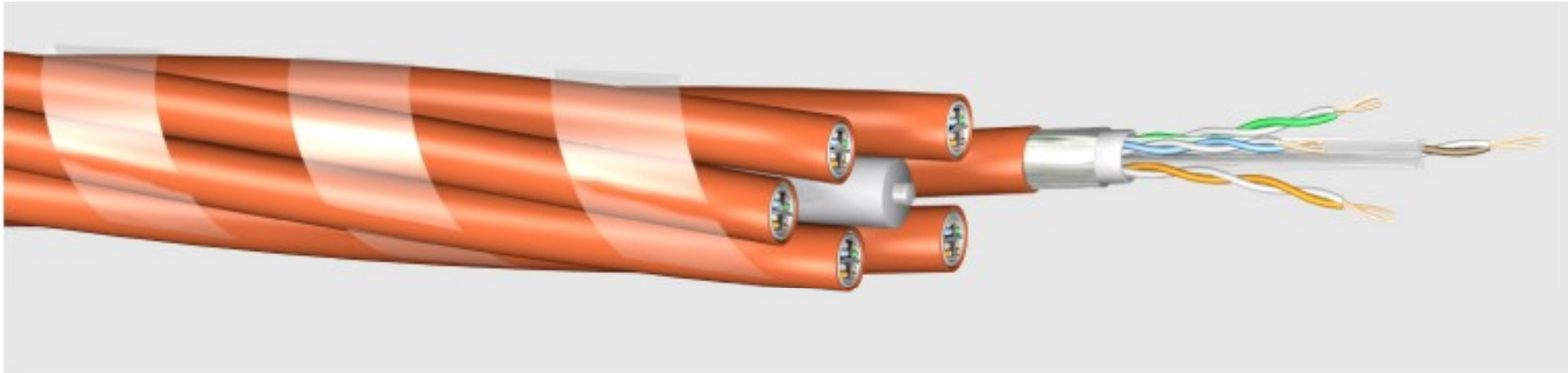
UC^FUTURE COMPACT23 Cat.7 S/FTP 8x4P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened 100 Ohms multiple cable especially for Horizontal Distribution Area,
- Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG23 for transmission lengths of maximum 100 meters

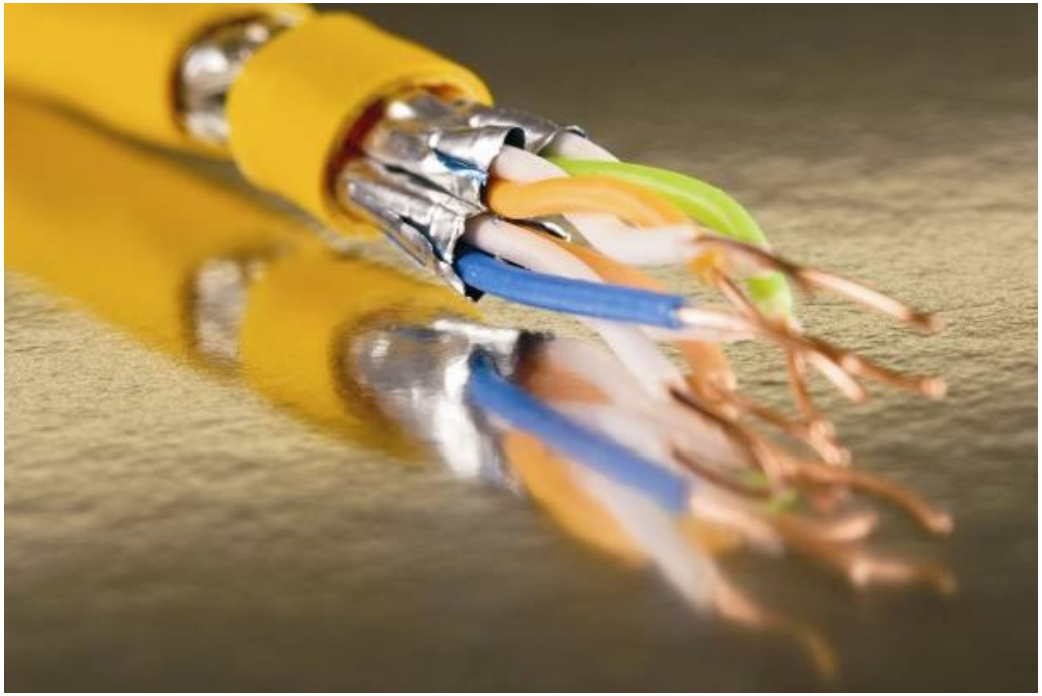
UC^FUTURE LOOMED23 Cat.7 S/FTP 6x4P



Applications:

- Data centre cabling 10Gbit solution
- Pair screened 100 Ohms multiple cable especially for Horizontal Distribution Area, Zone Distribution Ares and Equipment Distribution Area
- Fulfill minimum the requirements of Channel EA with conductor diameter of AWG23 for transmission lengths of maximum 100 meters.

Draka



Datacom Market

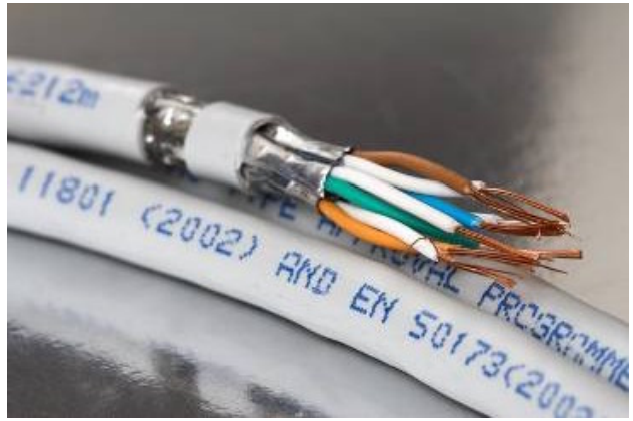
- End users
- Applications
- 10 GBit with Copper Data Cables
- The “new” Draka Data Centre brand
- **Draka Copper Data portfolio**
- Multimedia cable solution
- New harmonized Draka OFC Data brand

Draka

Product Line CU Data

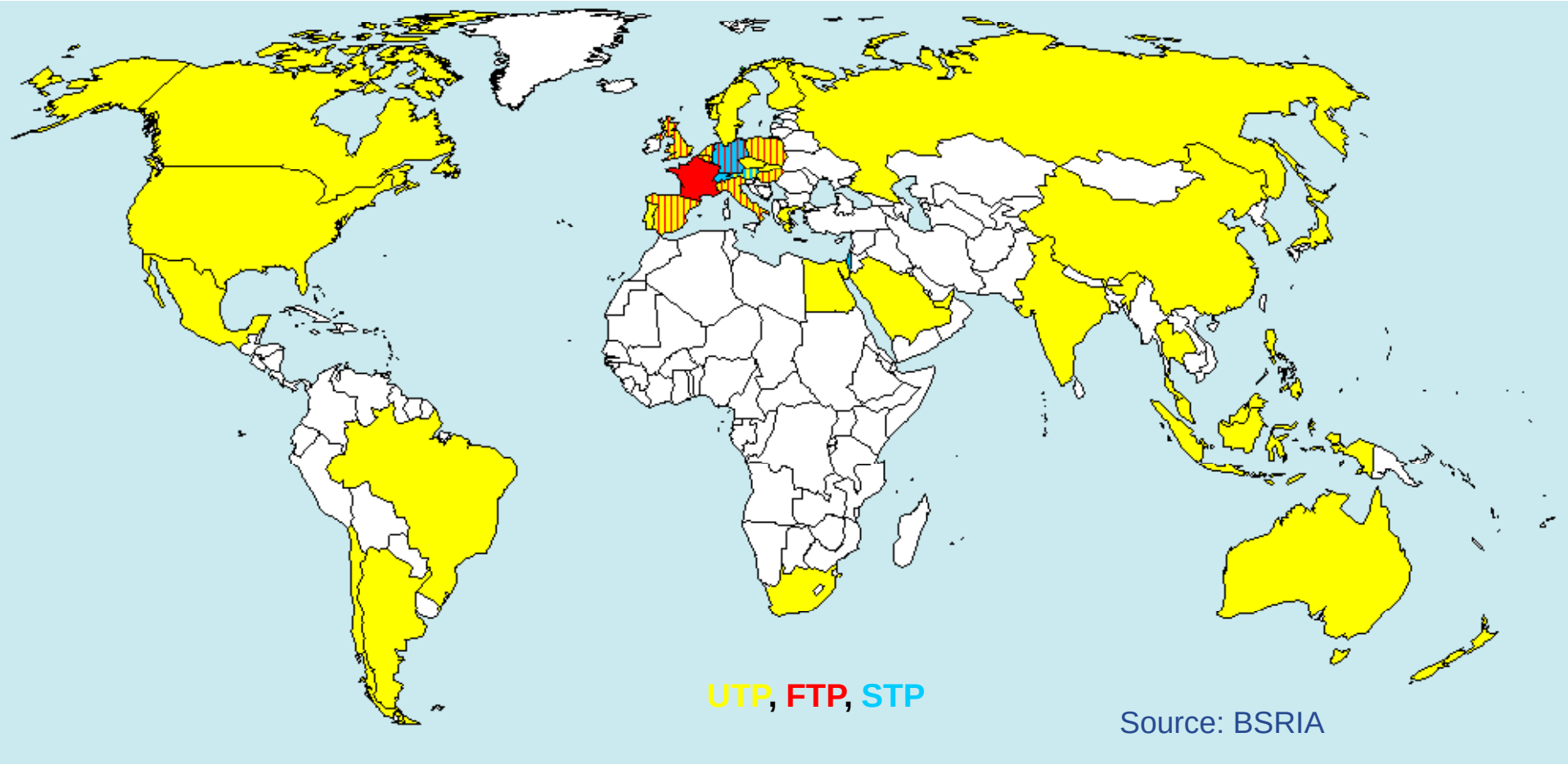
Product charateristics

- Internationally standardised
- ISO/IEC 11801
- Twisted pair cables
- UTP / STP designs
- Cat.5e, Cat.6, Cat.6A, Cat.7, Cat.7A
- Flame retardance, IEC 60332-1,
- IEC 60322-2-24, IEC 60754-2, IEC 61034-1
- Life expectancy of 15 year
- Certification: 3P, DELTA, GL, Lloyds, Det Norsk Veritas



Draka

Market Preferences



Draka

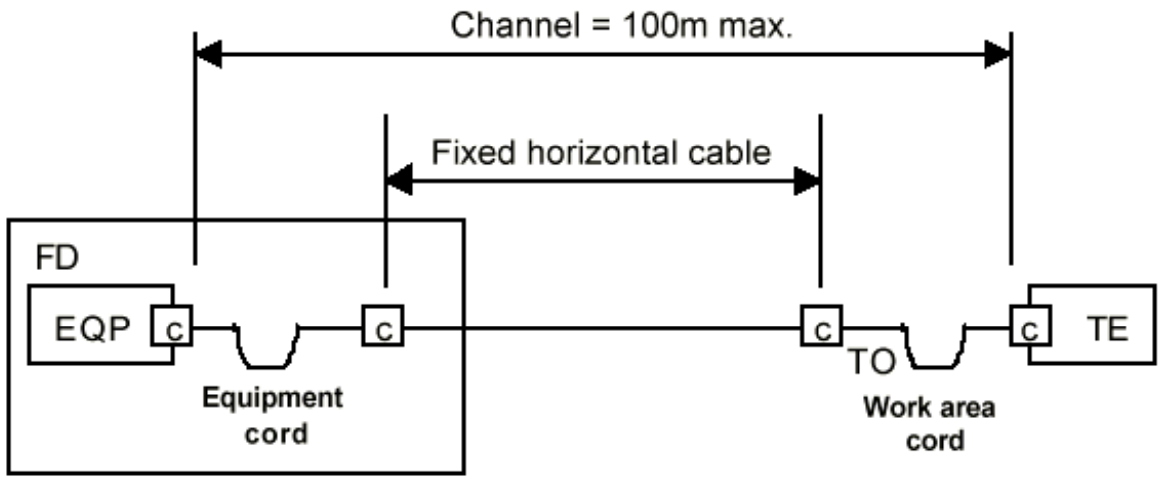
Standards

	Cable	Cabling	Application
USA	TIA/EIA	TIA / EIA 568-B.1/2 u. 2-1 Cat 5e u. Cat 6	IEEE 802.3 1GbE 10GbE
International	ISO/IEC SC46 WG7 IEC 61156-5	ISO/IEC JTC1 SC25 N780 ISO 11801 2nd ed.	
Europe	CENELEC SC46 XC EN 50288-x-1	CENELEC TC215 EN 50173-1	

Copper Data: Channel / Permanent Link

- Channel max. 100m;
- Permanent Link max. 90m
- (**Link Class**) **D-F** for application between **100** and **600 MHz**

Interconnect - TO Model



Draka

Classes and Categories

Class A	100 KHz	Cat. 1	Telephony
Class B	1 MHz	Cat. 2	128 Kbps
Class C	16 MHz	Cat. 3	10 Mbps
Class C+	20 MHz	Cat. 4	16 Mbps
Class D	100 MHz	Cat. 5	100 Mbps
Class D+	100 MHz	Cat. 5e	1000 Mbps
Class E	250 MHz	Cat. 6	1-10 Gbps
Class EA	500 MHz	Cat. 6A	10 Gbps
Class F	600 MHz	Cat. 7	10 Gbps
Class FA	1000 MHz	Cat. 7A	10 Gbps
“Class G”	1200 MHz	Cat. 7+	10 Gbps

UC300-UC1500, Draka CU Data Brand

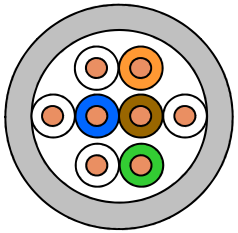
Draka UC = Universal Cabling

The brand for Datacom applications

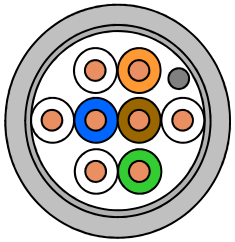
UC300 – UC1500	UC FIBRE™	UC FUTURE™
Copper Data cable	**Fibre Data cable**	**Data Centre cable**
Cat.5e	MMF	CU
Cat.6	SMF	MMF
Cat.6$_A$		SMF
Cat.7		
Cat.7$_A$		
MULTIMEDIA		

Draka

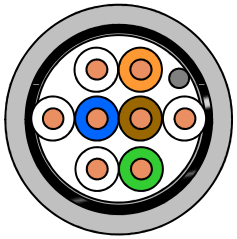
Copper Data



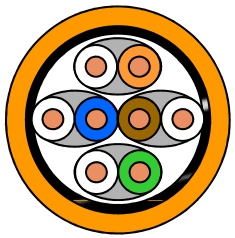
U/UTP:
Unshielded Twisted Pair



F/UTP:
Foil/ Unshielded Twisted Pair, Drain wire



SF/UTP:
Screened (copper braid, tinned) + Foil Shielded/ Unshielded Twisted Pair, Drain wire



S/FTP:
Screened (copper braid, tinned) / Foil Shielded Twisted Pair

With „UC“ best prepared for the future!

- Sufficiently potential for future transmission:
  - 10Base-T; 100Base-T; 1000Base-T; 10GBase-T; ISDN; TPDDI; ATM; CATV; Broadband Video, SOHO-Cabling

	EN50173-1; ISO/IEC11801	Designs
UC300 S24 **UC300 HS24**	Cat.5e	U/UTP, F/UTP, SF/UTP
UC400 S23 **UC400 HS23**	Cat.6	U/UTP, U/FTP, S/FTP
UC500 AS23	Cat.6a	F/FTP
UC900 HS **UC900 SS**	Cat.7	S/FTP
UC1200 HS23 **UC1500 SS22**	Cat.7	S/FTP

Draka

Copper Data

Cable type	Screening	Category	Application
UC300 24	U/UTP	Cat.5e	Installation Cable
UC300 S24	F/UTP	Cat.5e	Installation Cable
UC300 HS24	SF/UTP	Cat.5e	Installation Cable
UC300 26	U/UTP	Cat.5e	Patch Cable
UC300 S26	F/UTP	Cat.5e	Patch Cable
UC300 HS26	SF/UTP	Cat.5e	Patch Cable
UC400 23	U/UTP	Cat.6	Installation Cable
UC400 S23	F/UTP	Cat.6	Installation Cable
UC400 S23	**U/FTP**	**Cat.6**	**Installation Cable**
UC400 HS23	**S/FTP**	**Cat.6**	**Installation Cable**
UC400 24	U/UTP	Cat.6	Patch Cable
UC400 S26	U/FTP	Cat.6	Patch Cable

In red patent designs!

Draka

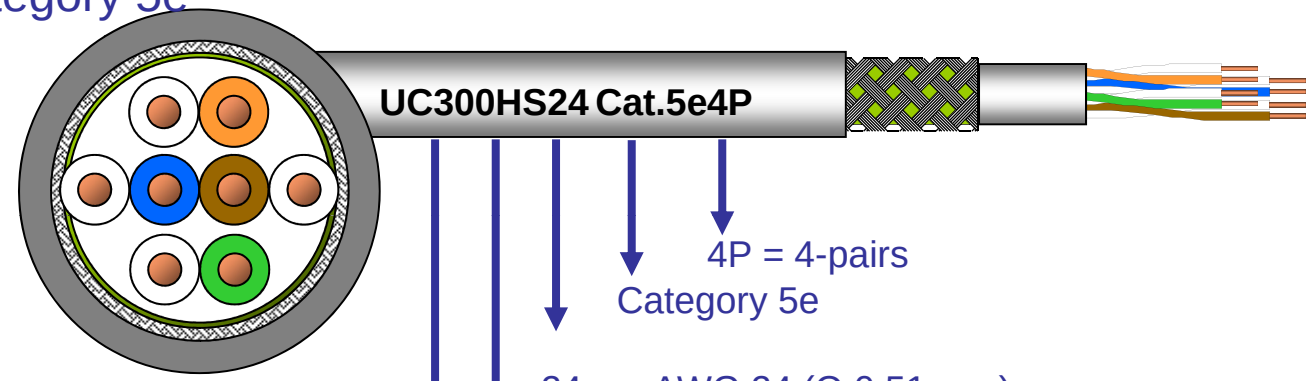
Copper Data

Cable type	Screening	Category	Application
UC500 23	U/UTP	Cat.6a	Installation Cable
UC500 S23	U/FTP	Cat.6a	Installation Cable
UC500 AS23	F/FTP	Cat.6a	Installation Cable
UC500 27	U/UTP	Cat.6a	Patch Cable
UC500 S27	U/FTP	Cat.6a	Patch Cable
UC900 HS23	S/FTP	Cat.7	Installation Cable
UC900 SS23	S/FTP	Cat.7	Installation Cable
UC900 SS27	S/FTP	Cat.7	Patch Cable
UC1000 SS23	S/FTP	Cat.7a	Installation Cable
UC1200 HS22	S/FTP	Cat.7+	Installation Cable
UC1200 SS22	S/FTP	Cat.7+	Installation Cable
UC1500 SS22 with 6 foils	S/FTP	MULTIMEDIA	Installation Cable
UC1500 SS23 with 6 foils	S/FTP	MULTIMEDIA	Installation Cable

In red patent designs!

UC300.. Cat.5e

- Up to 300 MHz
- 100 Ω LAN Cable Category 5e
- ISO/IEC 11801
- EN 50288-2-1
- EN 50173-1
- IEC 61156-5
- TIA/EIA-568-B.2
- RAL7035



4P = 4-pairs
Category 5e

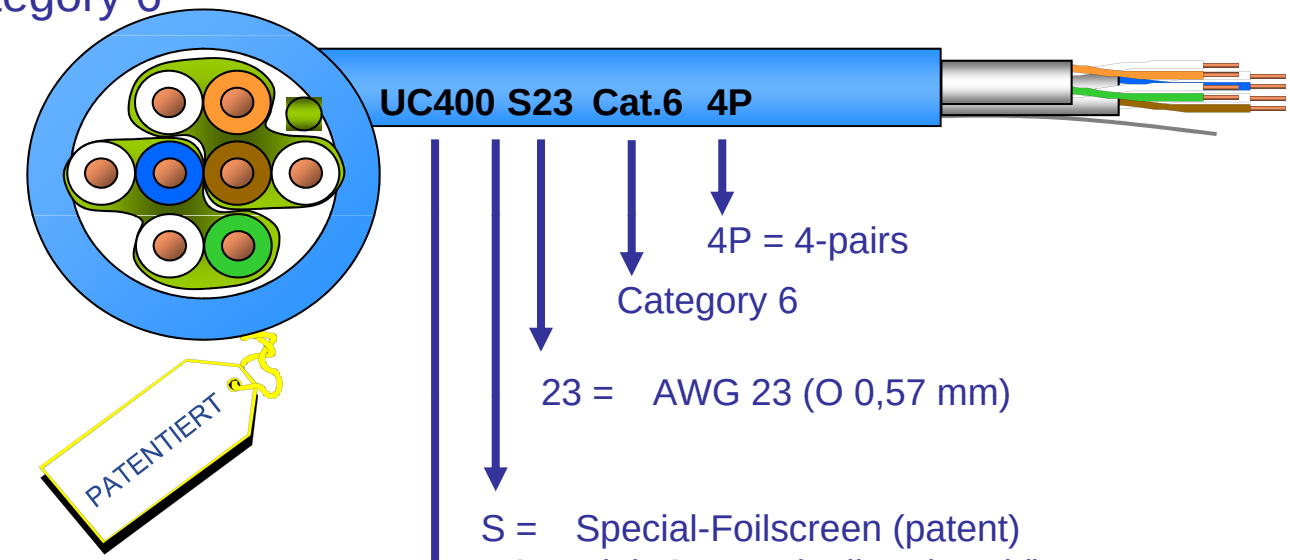
24 = AWG 24 (O 0,51 mm)

S = Screen (Foil or Braid)
HS = High Screen (Foil or Braid)

UC300 = Universal Cable 300 MHz

UC400.. Cat.6

- Up to 400 MHz
- 100 Ω LAN Cable Category 6
- ISO/IEC 11801
- EN 50288-5-1
- EN 50173-1
- IEC 61156-5
- TIA/EIA-568-B.2
- RAL5012



4P = 4-pairs

Category 6

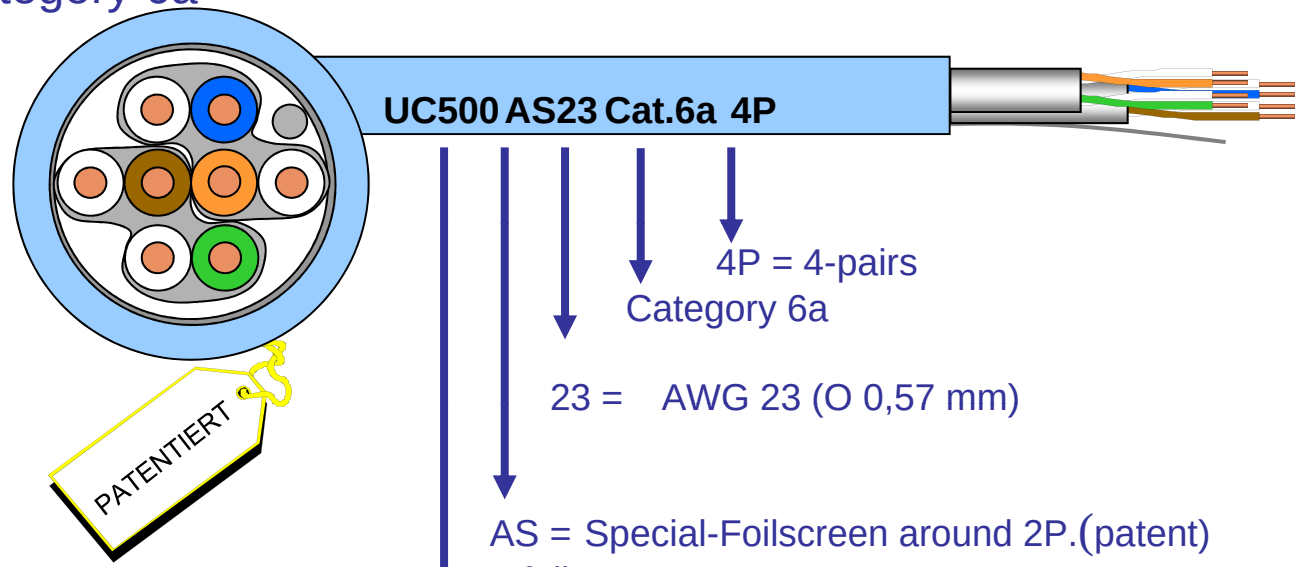
23 = AWG 23 (O 0,57 mm)

S = Special-Foilscreen (patent)
HS = High Screen (Foil and Braid)
SS = Super Screen (Foil and extra Braid)

UC400 = Universal Cable 400 MHz

UC500.. Cat.6a

- Up to 500 MHz
- 100 Ω LAN Cable Category 6a
- ISO/IEC 11801
- EN 50288-5-1
- EN 50173-1
- IEC 61156-5
- TIA/EIA-568-B.2
- RAL5024



4P = 4-pairs
Category 6a

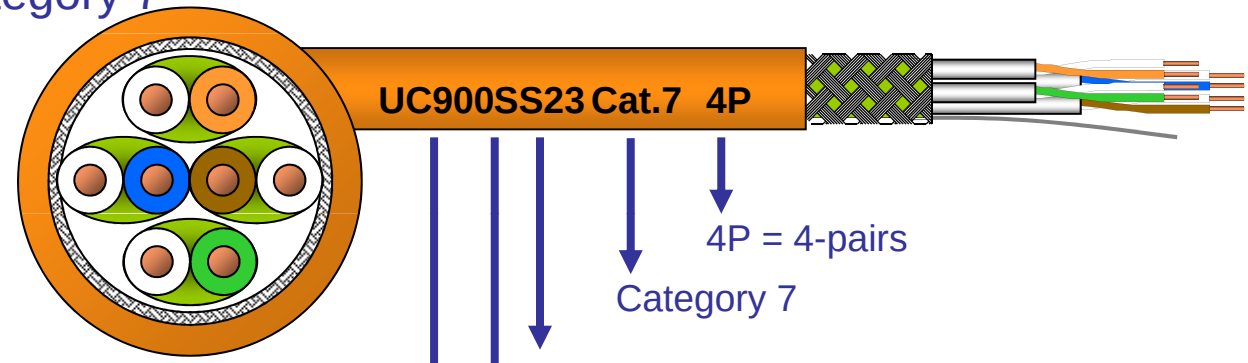
23 = AWG 23 (O 0,57 mm)

AS = Special-Foilscreen around 2P.(patent)
+ foilscreen

UC500 = Universal Cable 500 MHz

UC900.. Cat.7

- Up to 900 MHz
- 100 Ω LAN Cable Category 7
- ISO/IEC 11801
- EN 50288-4-1
- EN 50173-1
- RAL2003



4P = 4-pairs

Category 7

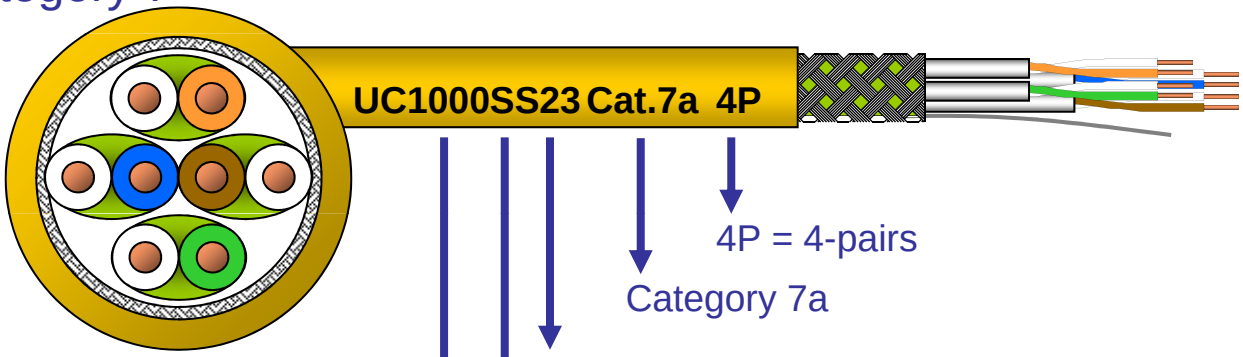
22 = AWG 22 (O 0,64 mm)
23 = AWG 23 (O 0,56 mm)

SS = Super Screen (Foil and extra Braid)

UC900 = Universal Cable 900 MHz

UC1000.. Cat.7a

- Up to 1000 MHz
- 100 Ω LAN Cable Category 7
- ISO/IEC 11801
- EN 50288-12-1
- EN 50173-1
- IEC 61156-5
- RAL1028



4P = 4-pairs

Category 7a

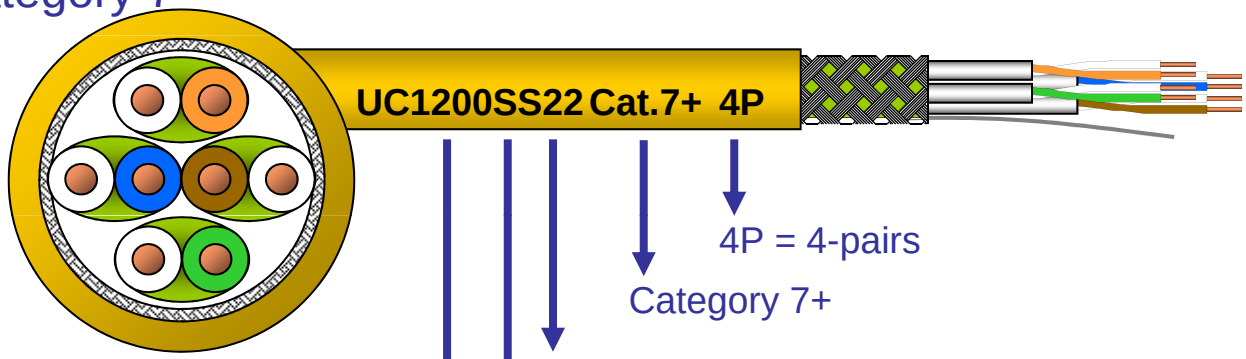
23 = AWG 23 (O 0,56 mm)

SS = Super Screen (Foil and extra Braid)

UC1000 = Universal Cable 1000 MHz

UC1200.. Cat.7+

- Up to 1200 MHz
- 100 Ω LAN Cable Category 7
- ISO/IEC 11801
- EN 50288-4-1
- EN 50173-1
- IEC 61156-5
- IEC 61156-7
- RAL1028



4P = 4-pairs

Category 7+

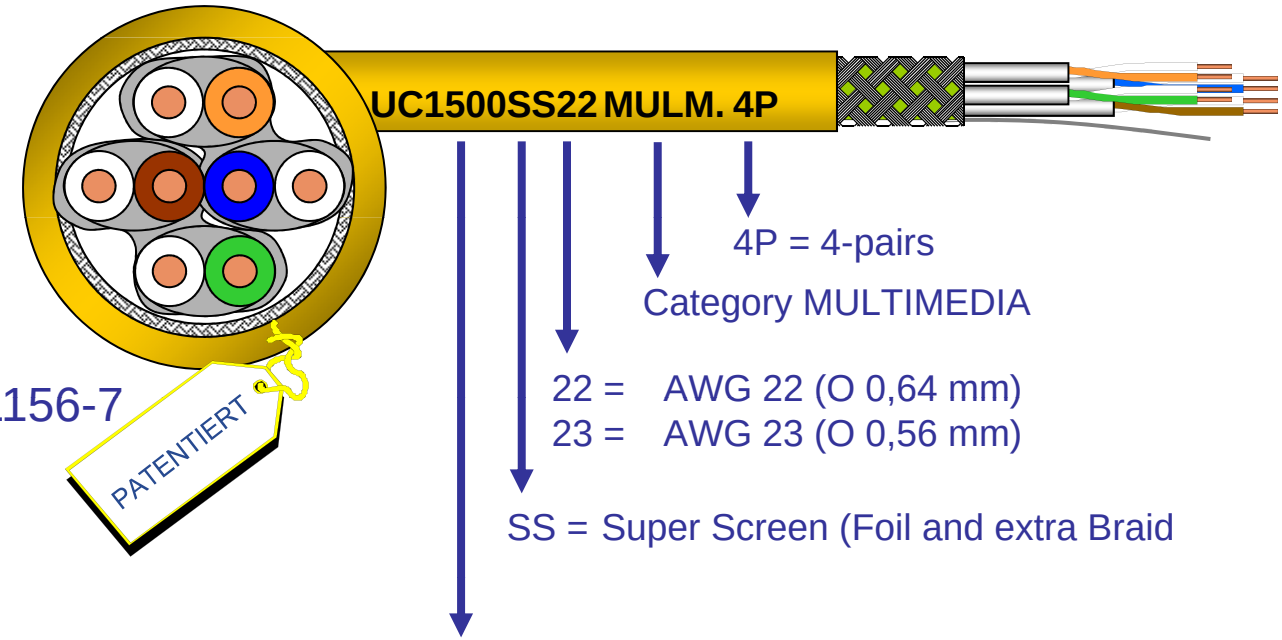
22 = AWG 22 (O 0,64 mm)
23 = AWG 23 (O 0,56 mm)

SS = High Screen (Foil and Braid)

UC1200 = Universal Cable 1200 MHz

UC1500.. Multimedia

- Up to 1500 MHz
- Patent Foilscreening around 2 pairs
- 100 Ω LAN Cable
  Category 7
- ISO/IEC 11801
- EN 50288-4-1
- EN 50173-1
- IEC 61156-5; IEC 61156-7
- RAL1028



4P = 4-pairs

Category MULTIMEDIA

22 = AWG 22 (O 0,64 mm)
23 = AWG 23 (O 0,56 mm)

SS = Super Screen (Foil and extra Braid

UC1500 = Universal Cable 1500 MHz

Draka

Datacom Market

- End users
- Applications
- 10 GBit with Copper Data Cables
- The “new” Draka Data Centre brand
- Draka Copper Data portfolio
- **Multimedia cable solution**
- New harmonized Draka OFC Data brand

MULTIMEDIA- new applications for a successful concept

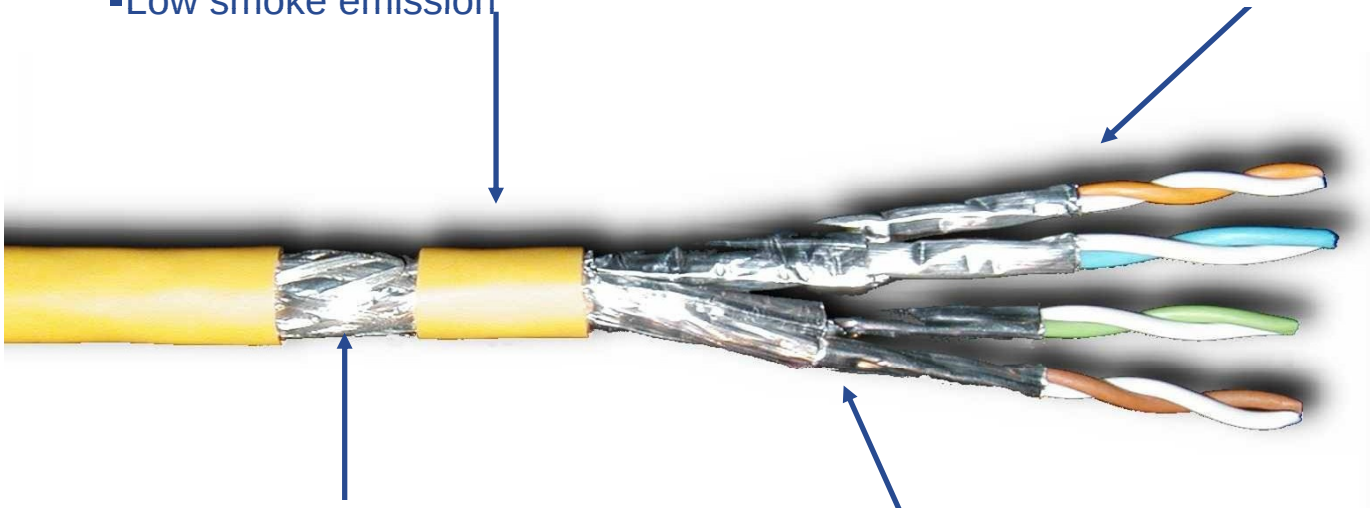
- The user expect from structured cabling all communication applications
- An additional application is broadband video and CATV with an upper frequency requirement of 862 MHz
- Cable sharing support Broadband video, high speed data and voice applications, using a single 4-pair fully shielded cable
- Demand for maximum channel separation

Draka

Cable Sharing with UC1500 MULTIMEDIA

Sheath: Protective elements
- Flame and fire barriers
- Non-toxic
- Low smoke emission

AWG23 Al-laminated plastic foil,
Unrestricted compatibility to all usual market components



copper braid, tinned, (ca. 65 % coverage)
Best suppression of noise and EM interferences

patented wrapping of two pairs each
(6Foils S/FTP)
Maximum Channel separation
excellent ACR Performance

Standard connectors for Cat.7

Siemon Tera-7 and GG 45

IEC 61076-3-104 up to 1200 MHz

Siemon TERA OUTLET

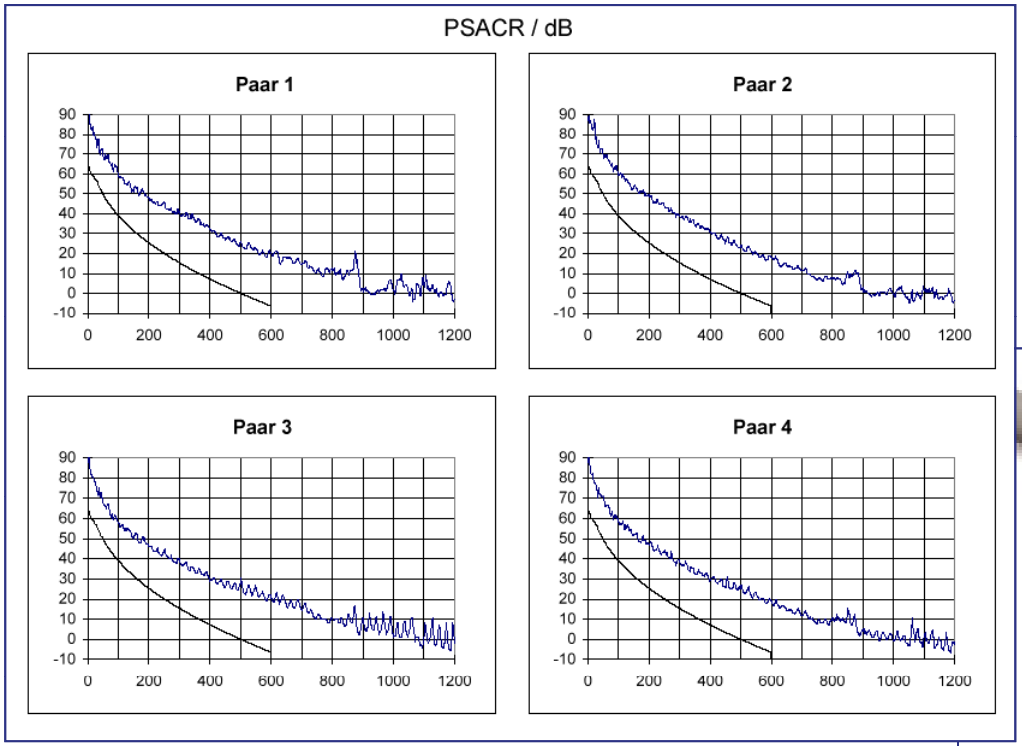
Draka

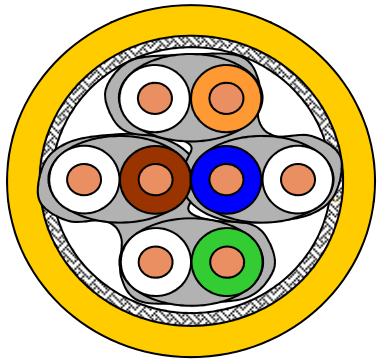
Cable Sharing with UC1500 MULTIMEDIA

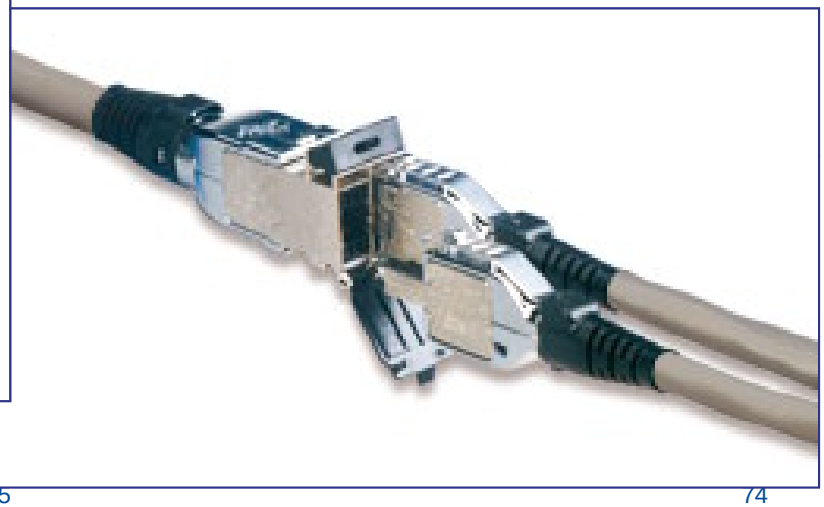
High Performance Link

With UC1500 SS23 Multimedia and Siemon Tera-7

IEC 61076-3-104 up to 1200 MHz







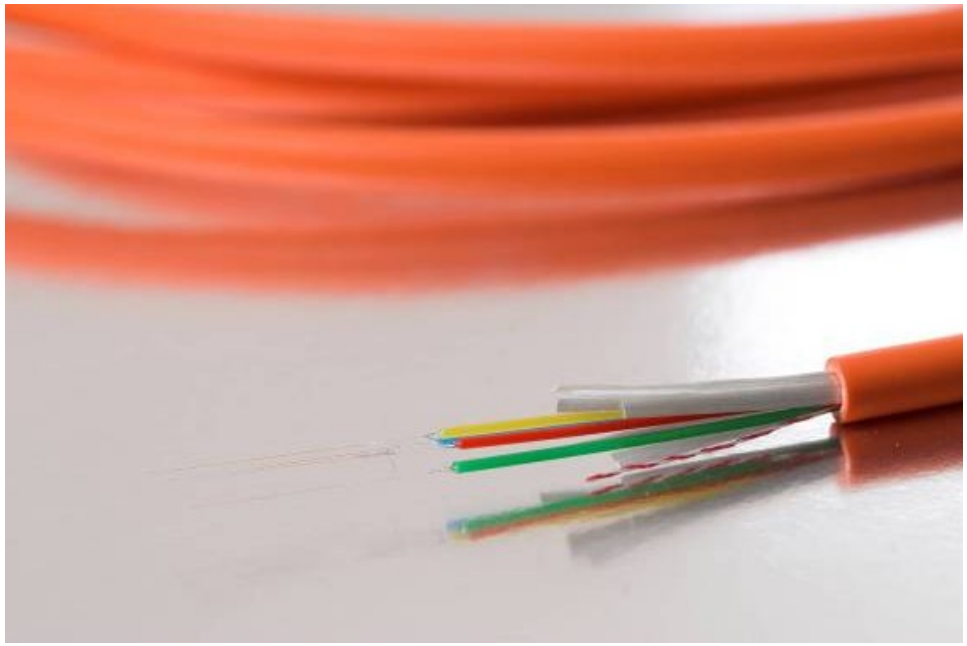
Cable sharing with UC1500 MULTIMEDIA and Siemon TERA

4 pair	2 pair	2 pair
Gigabit PC	Workstation	Video Camera (CCTV)
Gigabit Switchport	Print server	Blade Server Port
	Wireless Access point	Network Jack
	VoIP	
	Network printer	
	IP Camera	
	Monitoring Phone	

DRAKA MULTIMEDIA CABLES

UC Cables	1 MULTIMEDIA Application	Cable sharing
UC1000 SS23 Cat.7a S/FTP	yes	no
UC1200 SS22 Cat.7+ S/FTP	yes	yes
UC1500 SS22/23 MULTIMEDIA 6 Foils	yes	YES

Draka



Datacom Market

- End users
- Applications
- 10 GBit with Copper Data Cables
- Market trend for 10 GBit
- **New harmonized Draka OFC Data brand**
- The “new” Draka Data Centre brand
- Draka Copper Data portfolio
- Multimedia cable solution

UC^{FIBRE}, new Draka OFC Data Brand

Draka UC = Universal Cabling

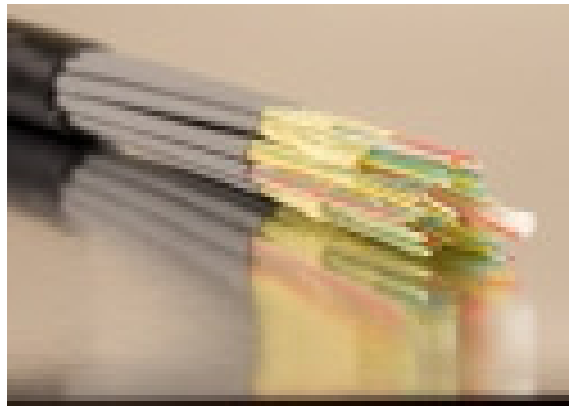
The brand for Datacom applications

UC300 – UC1500	UC^{FIBRE}™	UC^{FUTURE}™
Copper Data cable	**Fibre Data cable**	**Data Centre cable**
Cat.5e	**MMF**	CU
Cat.6	**SMF**	MMF
Cat.6$_A$		SMF
Cat.7		
Cat.7$_A$		
MULTIMEDIA		

Draka

Product charateristics

- Internationally standardised
- ISO/IEC 11801
- Loose tube and tight buffer cables
- Multiple cable designs for indoor, outdoor and combined usage
- Flame retardance, IEC 60332-1, IEC 60322-2-24, IEC 60754-2, IEC 61034-1
- Life expectancy of 15 year



Draka

Harmonized new jacket colour codes

	Denmark	France/ Spain	Germany	Norway
Indoor Patch	Multiple Colours	Multiple Colours	Multiple Colours	Multiple Colours
Indoor Multi-fibre				
Universal				
Outdoor				

Draka