

***Case No COMP/M.5983 -  
TYCO ELECTRONICS /  
ADC  
TELECOMMUNICATIONS***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 6(1)(b) NON-OPPOSITION  
Date: 06/12/2010

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## EUROPEAN COMMISSION

Brussels, 6.12.2010

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In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE  
ARTICLE 6(1)(b) DECISION

### To the notifying party

Dear Sir/Madam,

**Subject: Case No COMP/M. 5983 - Tyco Electronics / ADC Telecommunications Notification of 28/10/2010 pursuant to Article 4 of Council Regulation No 139/2004<sup>1</sup>**

1. On 28/10/2010, the European Commission received a notification of a proposed concentration pursuant to Article 4 following a referral pursuant to Article 4(5) of Council Regulation (EC) No 139/2004 by which the undertaking Tyco Electronics Minnesota Inc., an indirect wholly owned subsidiary of Tyco Electronics Ltd ('TE', USA), acquires within the meaning of Article 3(1)(b) of the Merger Regulation control of the whole of the undertaking ADC Telecommunications, Inc. ('ADC', USA) by way of purchase of shares.

#### **I. THE PARTIES**

2. TE is a publicly traded company whose common stock is listed on the New York Stock Exchange. It designs, manufactures and markets electronic products to customers in a broad array of industries. Its business comprises four segments: Transportation Connectivity, Network Solutions, Communications & Industrial Solutions, as well as Technology and TouchSolutions<sup>2</sup>. Given the activities of the target ADC, the merger

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<sup>1</sup> OJ L 24, 29.1.2004, p. 1 ("the Merger Regulation"). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ("TFEU") has introduced certain changes, such as the replacement of "Community" by "Union" and "common market" by "internal market". The terminology of the TFEU will be used throughout this decision.

<sup>2</sup> The Elo TouchSystems' line, which is the global leading brand in touch technology, encompasses touchscreen technologies, touch monitors and touch computers, designed for the requirements of diverse applications, such as industrial, medical, POS, kiosk, retail, hospitality, transportation and gaming.

concerns only the Network Solutions segment which comprises the supply of copper and fibre connectivity and closure products for telecommunication and enterprise networks.

3. ADC is a publicly traded company whose stock is listed on the NASDAQ Stock Market. It develops products and services for telecoms, cable and enterprise networks. Its business comprises three segments: Network Solutions, Professional Services and Global Connectivity Solutions. The merger will affect mostly the Global Connectivity Solutions segment, which encompasses end-to-end network infrastructure solutions for central office, enterprise and data centres, outside plant, wireless and broadcast networks.

## **II. THE OPERATION**

4. The proposed transaction consists of the acquisition of ADC by TE in the form of a tender offer by TE Minnesota Inc., an indirect wholly owned subsidiary of TE, for all outstanding shares of common stock in ADC, to be followed as soon as possible by a merger.

## **III. CONCENTRATION**

5. As a result of the operation, ADC will be wholly owned by the TE group. The proposed transaction constitutes therefore a concentration within the meaning of Article 3 of the Merger Regulation.

## **IV. EU DIMENSION**

6. The concentration does not have an EU dimension within the meaning of Article 1 of the Merger Regulation because the turnover of ADC does not meet the jurisdictional thresholds as set out in Article 1(2) and 1(3) of the Merger Regulation<sup>3</sup>.
7. On 06/09/2010, the Commission received from TE a referral request pursuant to article 4(5) of the Merger Regulation which was transmitted to all Member States. As no Member State expressed its disagreement as regards the request to refer the case to the Commission within 15 working days of receiving the reasoned submission, the concentration is deemed to have an EU dimension.

## **V. MARKET DEFINITION**

### **A. Product market definition**

8. Both TE and ADC are active in the manufacture and supply of passive equipment and accessories to telecoms carriers and enterprises. The activities of the parties overlap in the following broad segments<sup>4</sup>:

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<sup>3</sup> The EU-wide turnover of ADC is EUR [...], therefore below the EUR 250 million threshold provided in Article 1(2)(b) of the Merger Regulation. In addition, ADC does not have turnover greater than EUR 25 million in each of at least three Member States (Article 1(3)(c) of the Merger Regulation).

<sup>4</sup> Out of the three types of transmission networks (copper wireline, fibre optic wireline and wireless), the parties overlap only in the provision of passive equipment used in copper wire and fibre optic transmission networks. Only ADC is active in the wireless sector and there are fundamental

- (i) the manufacture and supply of passive equipment and accessories for carrier<sup>5</sup> networks<sup>6</sup>;
  - (ii) the manufacture and supply of structured cabling and hardware for enterprise networks.
9. In previous decisions, the Commission distinguished between telecommunication equipment for private and public networks<sup>7</sup>. Within each of these two markets, it further distinguished between active and passive components of a network solution<sup>8</sup>. Also, the Commission considered that the supply of passive equipment for use in copper and fibre optic networks belong to distinct markets<sup>9</sup>.
10. In line with previous Commission's findings, with regard to passive equipment, the notifying party proposes to distinguish between equipment for carrier networks and equipment for enterprise networks, and within each sub-category between copper and fibre products. Within each of these submarkets, the notifying party further submits that connectivity equipment and closures are two distinct types of equipment for carrier networks, both with regard to copper and to fibre optic. While connectivity equipment is used to connect the different elements of a carrier network to one another, closures do not carry out a connecting function; they are used to protect cable that has been joined together and are designed to simplify the management of such cable joints.
11. The notifying party submits that within the equipment for carrier networks each single product (as detailed below)<sup>10</sup> should constitute a separate market, due to limited demand-side substitutability and different manufacturing equipment and technology involved.
12. Within the copper connectivity equipment, the notifying party claims that four types of equipment can be distinguished: (i) magazines, protection and accessories; (ii) terminals; (iii) digital signals cross connectors (DSX); and (iv) discrete and modular connectors. The parties overlap only with respect to magazines.

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technological differences between the equipment used in wireless networks as opposed to wireline networks since in a wireless network the information is transmitted using radio frequency instead of physical wire.

- <sup>5</sup> A carrier is a service provider of telecoms services such as telephony, video and data communications access.
- <sup>6</sup> The Parties also supply carrier equipment to wireless network operators (i.e. mobile telephone operators), for use in the non-wireless ("wireline") parts of their networks.
- <sup>7</sup> Commission decision of 08/07/1992 in case no IV/M.236 - *Ericsson/ Ascom*, paragraph 17 and Commission decision of 31/03/2000 in case no. COMP/M.1880 – *3M/ Quante*, paragraph 9.
- <sup>8</sup> *3M/ Quante*, cited above, paragraph 10.
- <sup>9</sup> Commission decision of 20/09/2001 in case no COMP/M.2574 – *Pirelli/ Edizione/ Olivetti/ Telecom Italia*, paragraph 29, Commission decision of 05/07/2005 in case no COMP/M.3836 – *Goldman Sachs/ Pirelli Cavi e Sistemi Energia / Pirelli Cavi e Sistemi Telecom*, paragraph 15 and Commission decision of 06/01/2006 in case no COMP/M.4050 – *Goldman Sachs/ Cinven/ Ahlsell*, paragraph 11.
- <sup>10</sup> The technical description of each of the products concerned is provided in Annex I to the present decision.

13. According to the notifying party, within the copper closures, three types of closures can be distinguished: (i) copper closures; (ii) passive cabinets and enclosures; and (iii) active cabinets and enclosures. The parties overlap only with respect to active cabinets and enclosures<sup>11</sup>.
14. The notifying party submits that the equipment for fibre connectivity comprises three distinct categories: (i) central office and other fibre management hardware; (ii) outside plant fibre closures; (iii) and other speciality products. The parties overlap only with respect to central office and other indoor fibre management hardware.
15. The notifying party also considers that copper and fibre optic equipment for enterprise networks comprises two distinct product markets, namely cables and hardware.
16. In Europe, six types of copper cables are used in structured cabling, namely categories 5, 5e, 6, 6A, 7 and 7A<sup>12</sup>. The notifying party submits that copper cables for enterprise networks should be considered as belonging to the same product market, irrespective of the category, given that basically each additional category is a performance update of the previous version, and irrespective of the format, given that both formats are used for the same purpose.
17. The copper hardware includes outlets, cross connects ("patch panels") and patch cords that according to the notifying party belong to the same product market.
18. Two types of fibre optic cables are used in Europe for fibre optic structured cabling, namely single-mode and multi-mode cables. The notifying party submits that single-mode and multi-mode optical fibre cables belong to separate products markets, given that the usage of the two cables is very different and that a supplier of single-mode cables could not switch to production of multi-mode cables without significant capital expenditure and investment in product development.
19. Fibre optic hardware includes outlets, patch panels, equipment and work area cords, as well as connectors, which enable customers to manage and optimise their network and that according to the notifying party belong to the same product market.
20. The market investigation tested whether the segmentation proposed by the notifying party was appropriate or whether alternative broader or narrower product market definitions should be considered. Most respondents confirmed the relevance of the distinctions made by the Commission in past decisions between private and public networks, between passive and active components and between copper and fibre networks. However, the outcome of the market investigation with regard to the exact product market definitions was inconclusive. The majority of the respondents consider that a further distinction between connectivity products and closure products could apply, while some indicated that they could even consider single products as belonging to separate markets. However, a number of respondents did not have specific views.
21. In any case, the exact product market definition may be left open as the proposed transaction does not raise competition concerns under any of the alternative product market definitions.

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<sup>11</sup> TE supplies active cabinets in the EEA. ADC does not sell active cabinets directly. However, [...].

<sup>12</sup> While category 7 and 7A only come in the format of shielded twisted pairs (STP), category 5, 5e, 6 and 6A cables are available also in the format of unshielded twisted pair (UTP).

## **B. Geographic market definition**

22. In line with previous findings of the Commission<sup>13</sup>, the notifying party submits that the geographic scope of each of the product markets described above is at least EEA-wide, if not worldwide, in light of the fact, *inter alia*, that (i) the main companies active in these sectors operate on a global scale, (ii) products are standardized at an EEA-level, (iii) customers source at a EEA-level, (iv) there are significant imports from outside the EEA.
23. The majority of the respondents to the market investigation confirmed that the geographic dimension of the market is at least EEA wide due to sales on a global scale and standardized products at EEA level.
24. In any case, the exact geographic market definition may be left open as the proposed transaction does not raise competition concerns under any of the alternative definitions.

## **VI. COMPETITIVE ASSESSMENT**

25. On the broader markets for copper or fibre passive equipment for public or private networks, the proposed transaction will not lead to any affected markets on a worldwide or EEA basis, with the exception of fibre passive equipment for carrier networks where the parties would have only [10-20]%. Should the Commission consider intermediate product market definitions, based on the distinction between connectivity and closure products, the transaction would give rise to one affected market, i.e. the hypothetical market for fibre connectivity equipment for carrier networks where the parties would have a [20-30]% market share. Since, within that hypothetical market, the parties only overlap on one product which is 'central office and other fibre management hardware' and the parties would have the same market share ([20-30]%), the Commission's assessment will focus on that product market. Finally, in the narrowest market definition, as proposed by the notifying party, the transaction would also give rise to an affected market in 'copper magazines, protection and accessories'.
26. From the outset, it should be noted that the respondents to the market investigation did not express any significant objections against the proposed transaction. None of the customers expressed any competition concerns; on the contrary, some respondents indicated that they see this transaction as potentially beneficial as the merged entity would have a broader and more complete portfolio to offer to customers. Two competitors expressed some concerns in relation to a stronger market position of the combined entity. However, for the reasons set out in the following paragraphs, the markets in issue will remain competitive post-transaction.

### **A. Market shares**

27. According to the information submitted by the parties, the combined market share of TE and ADC for copper magazines, protection and other accessories would be

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<sup>13</sup> *3M/ Quante*, cited above at footnote 7, paragraph 14, *Pirelli/ Edizione/ Olivetti/ Telecom Italia*, cited above at footnote 9, paragraph 38, *Goldman Sachs/ Pirelli Cavi e Sistemi Energia / Pirelli Cavi e Sistemi Telecom*, cited above at footnote 9, paragraph 19, *Goldman Sachs/ Cinven/ Ahlsell*, cited above at footnote 9, paragraph 13.

approximately [20-30]% in the EEA (TE: [0-5]%; ADC: [20-30]%) and less than [30-40]% worldwide (TE: less than [5-10]%; ADC: [20-30]%). In addition, these figures indicate that the increment to ADC's existing market share is negligible (approximately [0-5]% in the EEA and less than [5-10]% worldwide). It should also be noted that ADC market shares have significantly decreased compared to the previous years; according to the parties, such drop is due to the entry into the EEA market of Asian products<sup>14</sup>.

28. As regards central office and other fibre management hardware, the parties' combined market share would be approximately [20-30]% in the EEA (TE: [20-30]%; ADC: [5-10]%) and approximately [20-30]% worldwide (TE: [5-10]%; ADC: [10-20]%). These market shares have not evolved significantly over the previous years<sup>15</sup>.
29. It is important to note that both markets are bidding markets. The market investigation confirmed that the notifying party's claim that telecom carriers, who are the parties' major customers, usually launch tenders every 1-2 years for each individual component. Tenders are organized by carriers for both 'greenfield' and 'brownfield'<sup>16</sup>. As previously indicated by the Commission<sup>17</sup>, this implies that even relatively high market shares of the parties do not necessarily give a clear indication of the market power that the merged entity will obtain post-merger.
30. Finally, the market investigation almost unanimously confirmed that post-merger the combined entity will continue to face several effective competitors for both (i) copper magazines, protection and other accessories and (ii) central office and other fibre management hardware.
31. As regards the market for copper magazines, protection and other accessories, the respondents mentioned major global companies active at the EEA level including 3M (with a market share of [20-30]%) and Corning (with a market share of [10-20]%).
32. Similarly, the market investigation confirmed that effective competitors are also present in the market for central office and other fibre management hardware at the EEA level, such as Huber & Suhner and Corning (with respectively market shares of [10-20]% and [10-20]%), as well as other significant players such as 3M (with a [5-10]% market share), and Nexans (with a [5-10]% market share).
33. The market investigation also indicated that there are many other players active in the relevant markets such as Prysmian, CommScope, Almatec, Panduit, Amphenol and others. It also confirmed to some extent the increasing presence of Asian suppliers (such as Huawei, ZTE and Fujikura).

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<sup>14</sup> At the EEA level, TE's market share was [0-5]% in 2007 and [0-5]% in 2008 while ADC's market share was [30-40]% in 2007 and [40-50]% in 2008.

<sup>15</sup> At the EEA level, TE's market share was [20-30]% in 2007 and [20-30]% in 2008 while ADC's market share was [5-10]% in 2007 and [10-20]% in 2008.

<sup>16</sup> A greenfield project relates to the creation of a new network whereas a brownfield project relates to the update of an existing network.

<sup>17</sup> See for example Commission decision of 13 December 2000 in Case COMP/M.1940 *Framatome / Siemens / Cogem / JV*, Commission decision of 20 July 2005 in Case COMP/M3653 *Siemens / Va Tech* and Commission decision of 10 July 2003 in Case COMP/M.3148 *Siemens / Alstom Gas and Steam Turbines*.

## **B. Closeness of competition**

34. According to the information submitted by the notifying party, the parties are not close competitors as they have complementary product portfolios. This seems to be confirmed by the asymmetric market shares that the parties hold in the relevant markets and by the limited overlap that arises between the parties when considering the single products that the parties produce.
35. The market investigation confirmed to a large extent that TE and ADC mostly offer complementary products. In particular, most of the customers participating to the market investigation confirmed that they have either one or the other party in their list of suppliers and they indicated other suppliers as alternative suppliers to either one of the parties.

## **C. Market dynamics**

36. The notifying party submitted that the passive equipments market is characterized by a progressive replacement of traditional copper networks by fibre networks and that, as a result of the ongoing switch by customers to optical fibre, there is currently significant spare capacity in the industry. The notifying party estimates that the capacity of industry players exceeds market demand by around 30% with regard to copper magazines, protection and other accessories and that industry utilization is estimated at 85% with regard to central office and other fibre management hardware, which would indicate the absence of capacity constraints on the affected markets.
37. The respondents to the market investigation unanimously confirmed such trend, indicating that while the markets for copper networks are declining, those for fibre networks are experiencing a high growth. The notifying party's claim was further validated by those respondents that indicated that there is currently spare capacity within the affected markets.
38. Moreover, as mentioned above, the market investigation confirmed the increasing presence of Asian suppliers that export their passive equipments to the EAA and thus, as some respondents indicated, will contribute to lower the prices of the products in exam.
39. Finally, while some respondents indicated that new products would require new trainings for distributors and integrators, most of the respondents to the market investigation indicated that there are no significant barriers to entry into these markets. The limited barriers to entry indicate that suppliers could enter from neighbouring markets should the prices of a specific product increase.

## **D. Sales patterns**

40. According to the parties, providers of passive equipments sell through a mixture of direct sales and sales through distributors and/or integrators.
41. As regards direct sales, the market investigation revealed that direct customers are typically sophisticated buyers that, as indicated above, make their purchases through competitive bidding processes that are carried out almost yearly, involving multiple vendors and where the main criteria seem to be, according to the respondents to the market investigation, price and technology offered. Such purchasing patterns maintain pressure on all vendors to offer competitive and cost effective solutions.



42. The market investigation further confirmed that carriers within the EEA also purchase their passive infrastructure products through large systems providers offering turn-key solutions (such as Nokia Siemens and Alcatel Lucent) who tend to source from more than one supplier and make sophisticated decisions with respect to each of the components. One respondent further explained that larger carriers require alternative suppliers for their network solutions in order to ensure continuity of supply and competitive offers.
43. The market investigation also indicated that customers usually mix products sourced – directly or indirectly – from different suppliers when designing their overall solutions. According to the results of the market investigation, the majority of the products in exam are manufactured according to global standards; this allows customers not only to mix them irrespectively of their producer, but also to use them interchangeably and therefore to easily switch supplier.
44. With regard to the possibility to switch suppliers for updates/upgrades, many respondents have indicated that customers might face difficulties with respect to certain legacy products as some present physical unique design characteristics. However, respondents also indicated that their legacy equipments are very limited, which makes it easy for customers to switch suppliers should they decide to change network solutions.
45. Finally, the market investigation confirmed that contracts are usually of short duration, ranging from 1 year to a maximum of three years, thus excluding any lock-in effects and allowing customers to renegotiate the terms of the contract or to select new suppliers almost yearly.
46. These dynamics, in particular the fact that direct customers are sophisticated buyers, that sales are carried out through bidding processes or distributors/integrators, and that customers can mix products from different suppliers, clearly limit the ability of the combined entity as well as of the several remaining competitors to increase their prices.

## **E. Conclusion**

47. In light of the above considerations, the Commission concludes that the proposed concentration does not raise doubts as to its compatibility with the common market.

## VI. CONCLUSION

48. For the above reasons, the European Commission has decided not to oppose the notified operation and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation.

*For the Commission*

*(signed)*

*Joaquín ALMUNIA  
Vice-President*

## ANNEX I – TECHNOLOGICAL DESCRIPTION OF PRODUCTS OF THE PARTIES

PRODUCT MARKET	DEFINITION	
<b>CARRIER NETWORKS</b>		
Copper connectivity equipment	Magazines, protection and accessories for copper networks	A magazine serves as a central termination point for multiple pairs of copper cables. It allows a circuit to be re-routed or serviced more efficiently than the direct connection of network elements would allow. Standard magazines connect 10 wire pairs each and are normally stacked in blocks of up to 11 magazines. A magazine is normally filled with air and is not sealed. The protection of magazines refers to the electrical protection from lightning bolts or voltage surges through the network and is sold as an accessory to magazines.
	Terminals and accessories for copper networks	Terminals are used to connect a customer cable to the outside plant copper network, being able to connect larger diameter cables than magazines. A terminal can typically connect one copper pair, but terminals can be grouped together into blocks handling multiple connections. Terminals are used for outdoor applications, as they are filled with gel and sealed. They are substantially more expensive on a per connection basis than magazines.
	Digital signal cross connects (DSX) for copper networks	A digital cross connect is a piece of equipment that provides a central termination point for multiple copper wire pairs (or coaxial cables). It also provides a socket allowing physical access to the circuit without the need to interrupt service (in order to test the circuit). DSXs are only used to a limited extent in Europe.
	Discrete and modular connectors for copper networks	A discrete or modular connector is a piece of equipment used to connect wires in a copper closure. They are typically used in underground applications. Discrete connectors are the most common and they connect just a single pair of wires, while the modular connectors may connect up to 25 pairs. This type of connector is less advanced than a magazine or terminal: it does not have any protection or test capabilities and it is not re-usable.
Copper closures	Copper closures	Copper closures are hardware that fit closely around a cable joint to protect it from its immediate environment. Closures can be either pressurised or non-pressurised and vary in design depending on the cable for which they are used. Closures may be located underground in environments subject to flooding or on outside walls or on utility poles.
	Passive cabinets	A passive cabinet or enclosure is a telecoms cabinet containing the connection point between the cable from a carrier's outside plant to a customer's building or premises cable. The passive cabinet operates to protect the cables at the cable junctions and to facilitate service distribution and signal routing. Specifications for cabinets vary according to the cable for which they are used, as well as the desired distribution functions.
	Active cabinets and enclosures	An active cabinet or enclosure is a telecoms cabinet manufactured to house active (i.e. electronic) telecoms equipment. The parties do not manufacture the active equipment contained in the cabinet. The cabinet needs to have the necessary functionality for the equipment it will house and for its location, such as a temperature control function. Each cabinet is manufactured to the specifications of the customer.
Fibre connectivity equipment	Central office and other fibre management hardware	Fibre optic management units distribute and route the fibre circuit in indoor locations. This equipment may be housed in a variety of locations including central offices (Optical Distribution Frame or "ODF"), outside (in splitter cabinets) and at the point where the main network enters a customer's premises (indoor box). The equipment is supplied as a full package fibre management solution, including all necessary cabinets, components and patch cords for the required location.
	Outside plant fibre closures	Closures are used in outside plant to manage the fibre cables – i.e. to ensure they run smoothly with no kinks or tangles which prevent their functioning.

Other speciality products	Copper frequency management products	radio signal	These products can split or combine analogue radio frequency video and audio signals.
	Copper audio and video patch panels		These products are used to manage analogue audio and video broadcast signal (in a similar way to a magazine or other connectivity product).
	Power distribution panels		These products support the distribution of electrical power within a central office.
	Digital transmission products	data	This equipment provides digital data transmission over the carrier network, such as digital subscriber line (DSL), digital loop carrier (DLC) and LAN extension products.
	Copper test access		These products provide automated physical access to copper circuits, without interfering with the communication transmission.
	Network interface units		These products interface between the outdoor CATV network and the home network.
<b>ENTERPRISE NETWORKS</b>			
Copper enterprise networks	Cables		<p>There are two functions for cabling in an enterprise network:</p> <p>§ Backbone cabling: connecting the entrance facilities, equipment rooms and telecommunications rooms</p> <p>§ Horizontal cabling: connecting the telecoms rooms to individual outlets or work areas in the building or on the site</p>
	Hardware		<p>Copper hardware includes:</p> <p>§ Outlets: the hardware into which voice (i.e. telephony) and data terminal (i.e. computer) equipment is connected. The back of the outlet connects to horizontal cabling, which terminates at the floor's cross-connect or patch panel.</p> <p>§ Cross connects ("patch panels"): these products provide for the temporary reconfiguration of circuits.</p> <p>§ Patch cords: these products are used to connect ("patch in") one optical device to another for signal routing. The fibre patch cord connects the ODF to terminal equipment.</p>
Fibre enterprise networks	Single mode cables		A single mode fibre cable is a fibre optic cable designed to carry only a single ray of light. Cables of this type have lower capacity, but the quality of the data transferred is better than in multi-mode cables. The data transmission is faster and thus single-mode cables can carry the light rays more effectively over longer distances and transfer more information.
	Multi-mode cables		A multi-mode fibre optic cable is mostly used for communication over shorter distances, such as within a building. It is generally used for backbone applications. Cables in this category have higher capacity, but the quality of the data transmission is lower compared to single-mode cables.
	Hardware		<p>Fibre optic hardware includes</p> <p>§ Outlets: the hardware into which voice (i.e. telephony) and data terminal (i.e. computer) equipment is connected. The back of the outlet connects to horizontal cabling, which terminates at the floor's cross-connect or patch panel.</p> <p>§ Patch panels: these products provide for the temporary reconfiguration of circuits</p> <p>§ Equipment and work area cords, including connectors: a fibre connector terminates the end of an optical fibre, enabling the easy connection and reconnection of fibres.</p>