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European Information
Technology Observatory
Definitions & methodology

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Definitions & Methodology EITO 2011

1. Data Sources and methodology

All data suppliers for the EITO 2011 reports are European-based research firms, following research methodologies that are optimised according to the markets under analysis. These methodologies always include both primary research activities (interviews with vendors and end-users, distribution channel monitoring) and secondary research (publications of companies, regulatory authorities, international organisations and industry associations).

1.1. Geographic coverage

EU25: refers to the 27 member states of the European Union with the exception of Malta and Cyprus.

Western Europe includes 15 Western European EU countries as well as Norway and Switzerland.

In addition EITO offers data for the worldwide and major international ICT markets including China, India, Russia and the USA.

1.2. Market values (revenues)

Market values reflect revenues paid by the final customer to primary vendors and service providers either directly or through distribution channels. Thus market revenues reflect end-user spending in a particular country, excluding VAT. All market values are given in Euro. For all non Euro zone countries market data were converted from local currencies to Euros using the yearly average exchange rates of local currencies to the Euro for 2010 as provided by the IMF database (see <http://www.eito.com/exchangerates.htm>).

1.3. Unit shipments

Unit shipments is the unit measure of hardware product sales by vendors or by distribution channels to end users.

1.4. Market segmentation (revenue data)

The ICT market contains six major segments: IT equipment, software, IT services telecommunications equipment, and carrier services. The IT market is the sum of IT equipment, software, and IT services. The telecom market is the sum of telecom end-user equipment, network equipment, and carrier services.

IT market	
IT equipment	<ul style="list-style-type: none"> Detail segments Servers Storage Workstations PCs <ul style="list-style-type: none"> Netbooks* Portable PCs <ul style="list-style-type: none"> Consumer Portable PCs* Business Portable PCs* Desktop PCs <ul style="list-style-type: none"> Consumer Desktop PCs* Business Desktop PCs* Printers and MFP <ul style="list-style-type: none"> Printers* Multifunction printers* Copiers Monitors Other IT equipment <p>*only available for D, E, F, I, UK, CZ, H, PL</p>
Software	<ul style="list-style-type: none"> System Infrastructure Software Application D&D Applications
IT services	<ul style="list-style-type: none"> Training and Education Planning Implementation Support Services Operations Management BPO Services
Telecom market	
Communication equipment	<ul style="list-style-type: none"> Mobile phones (incl. smart phones) <ul style="list-style-type: none"> Smart phones* Fixed line phones and Customer Premises Equipment (CPE)* LAN routers and switches PBXs, KTS and applications Voice switching equipment WAN data routers and switches Wireline access infrastructure Mobile access infrastructure Transmission equipment Support systems (OSS/BSS) Infrastructure services <p>* not available for all EITO countries/regions</p>
Carrier services	<ul style="list-style-type: none"> Fixed voice telephony Business data services Internet access and services Mobile voice telephony Mobile data services

	Pay TV
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1.5. Exchange rates

For all non Euro zone countries (EU member countries not participating in the European Monetary Union and countries outside of the European Union), historical and forecast market data were converted from local currencies to Euros using the yearly average exchange rates of local currencies to the Euro for 2010 as provided by the IMF database.

Euro exchange rates (Units per Euro based on average rates for 2010)	
Bulgaria	1.9542
Czech Republic	26.4796
Denmark	7.4465
Estonia	1.0000
Hungary	275.4061
Latvia	0.7026
Lithuania	3.4519
Norway	8.0050
Poland	3.9935
Romania	4.2089
Sweden	9.5458
Switzerland	1.813
UK	0.8566
US	1.3244
Japan	116.2578
India	60.5604
Turkey	1.9904
China	8.96671059340834
Brazil	2.32996709
Russia	40.2199868881987
Canada	1.36436901111854

For the IT equipment figures, IDC used average exchange rates of 2009 provided by <http://www.oanda.com> for the conversion of the IT market values into Euro. These exchange rates, which will be distributed on request, may differ minimal from the data provided by IMF.

2. Information Technology

2.1. IT equipment

IT equipment is defined as technological hardware used in the processing of information in the form of data (input, process, output, communication, and storage). It includes computer systems (client and server devices), system peripherals (printers and MFPs), storage hardware, network equipment, and other hardware.

2.1.1. Computer Systems

Computer systems are defined as working computers, including any software or peripheral devices that are necessary to make the computer function. Every computer system, for example, also includes an operating system (the value of which is included in the value of the computer system). The computer system is a functional unit that may consist of one or more computers and is designed for either single-user access (PCs and workstations) or multiuser access (servers). A computer system uses common storage for all or part of a program and for all or part of the data necessary for executing the program. It executes programs and performs data manipulation.

Additional storage, peripherals, connectivity devices, and software may be added to a computer system to increase its functionality, but these are not considered as components of the original computer system. In this study, those categories are tracked separately.

2.1.2. Personal Computers

A personal computer is a general purpose, single user machine that is microprocessor-based, capable of supporting attached peripherals and can be programmed in a high-level language.

Specifically excluded from this definition of PCs are the following:

- Smart handheld devices such as iPads, PDAs, high-end organizers/PC companions, personal companions, pen tablets, pen notepads, keypad handhelds, and smart phones.
- Application-specific devices that are designed from the start for a dedicated function, such as point-of-sale (POS) terminals, automated teller machines (ATMs), and voting machines.
- Any product, such as a terminal or network computer (NC), that is designed primarily to access information on another computer and that lacks local storage and the ability to operate without being connected to another processor.
- Board-level products for building embedded systems or upgrading existing PCs.

- Devices for embedded applications.
- Upgrades to existing PCs.
- Single-user RISC-based workstations.
- Systems marketed as "personal workstations" are counted as PCs as long as they have Intel-type processors and are designed primarily to run a PC OS, including Windows NT.
- PC/TV combinations that include a full personal computer are counted as desktop PCs.

For the purposes of this study the PC market is represented in terms of annual end-user spending, including channel margin. This is otherwise referred to as "value of shipments" and is calculated as follows.

Average Sales Value

An average sales value (ASV) is the average end-user (street) price paid for a typically configured system with storage, memory, keyboard and video display. This is often referred to as variations of average system/sales/street value/price (ASV/ASP).

Unit Shipments

Unit shipments constitute a measure of the number of PCs shipped by a vendor to all distribution channels or directly to end users. Units are counted as they leave the vendor and are not double counted in the case of OEM relationships in which systems are shipped twice.

End-User Spending/Value of Shipments

This term is the sum of unit shipments multiplied by the ASV. Because this figure includes distribution margins and monitors (and does not include discounting for bulk purchases), the number will typically be higher than PC-related sales/revenue figures reported by companies.

2.1.3. Servers

A server is a computer or device on a network that manages network resources. For example, a file server is a computer device dedicated to storing files. Any user on the network can store files on the server. A print server is a computer that manages one or more printers, and a network server is a computer that manages network traffic. A database server is a computer system that processes database queries.

Servers are currently represented in the following major categories:

- **High-End Enterprise Server**

A high-end enterprise server is any server priced at \$250,000 or more.

- **Midrange Enterprise Server**

Midrange enterprise servers are servers that are above volume servers and below high-end enterprise servers. This definition is based strictly on the price of the server, which must be between \$25,000 and \$249,999, inclusive. No other usage connotations are implied.

- **Volume Server**

This is the term for servers priced less than \$25,000. It includes multiuser PC servers, which are thus excluded from the PC market total.

2.1.4. Traditional Workstations

Traditional workstations include all workstations on which Unix is the primary operating system. The operating systems is usually bundled by the hardware manufacturer, with an emphasis on technical, graphics application segments and higher levels of functionality in many areas (graphics performance, floating point, memory, maximum disc storage, etc.)

2.1.5. Printers and MFPs

A printer is a device used to apply inked images of alphanumeric or other symbolic characters to paper; or to duplicate an illustration, graphic design, or photographic image on paper. A printer may be manually operated, mechanically operated, or computer driven. There are many types of printers that vary in terms of the way the image is created and the type of paper and ink used. An additional category of printers includes other functionality such as fax and copying.

Printers

A printer is a device that converts text and graphics from a computer, digital camera, camera phone or memory card and outputs the information in the form of a hardcopy document.

There are two broad categories of printing technology: impact and nonimpact. The printers total presented in this study includes both impact and nonimpact printers.

Impact printers employ techniques that involve striking the final print medium, usually paper. Some use print elements (for example, daisy wheels or thimbles), chain/train or drum techniques, or hammers (for dot matrix printing).

Conversely, nonimpact printers employ techniques that do not involve striking the paper. This category includes inkjet and printers that employ electro photographic (laser, LED, or liquid crystal) technologies. Electron beam, magnetic, and electro-sensitive printers also are part of the nonimpact category.

Multifunction Peripherals (MFP)

An MFP is a device that incorporates at least two of the following document functions: copy, fax, print, and scan. One of these two functions must be the print function. The various function combinations for an MFP are: Print/Copy, Print/Scan, Print/Fax, Print/Scan/Fax, Print/Copy/Fax, Print/Copy/Scan, and Print/Copy/Scan/Fax.

MFPs can be either directly connected to a computer workstation or indirectly connected via a network.

Inkjet MFPs use either a continuous, controlled flow of ink or a staccato ejection of ink, often referred to as "drop on demand." Ink is typically ejected through a multi-nozzled head. Laser MFPs form the image of an entire page on an intermediate medium (usually a photosensitive drum) before transferring it to paper.

Single Function Digital Copiers (SFDC)

A Single Function Digital Copier is a device that scans and digitizes documents before reproducing them. Virtually all digital copiers employ "scan once/print many" technology. This technology allows documents to be scanned electronically only once into the machine and have multiple document sets be generated from the machine's memory.

Only digital copiers that have the capability to be connected to a PC or computer network are tracked in this category. If the digital copier is connected to a PC or computer network and can print as well as copy at the moment of sale, then it is classified as an MFP.

2.1.6. Storage

Storage is the part of a computer system, or connected system or peripheral device, which stores information for subsequent user or retrieval. It can take the form of storage, which is an integral component of functional computer systems, or additional systems and devices.

Only additional storage hardware in the categories of disk systems and tape automation are included in this study. Moreover, the storage total in this study is related only to this hardware and does not include spending on storage software (captured in system infrastructure software) or storage services (captured in IT services).

Disk Storage Systems

A disk storage system is defined as a set of storage elements, including controllers, cables, and (in some

instances) a host bus adapter, associated with three or more disk drives. A system may be located outside of or within a server cabinet. Thus, nearly all storage within large-, medium-, and small-scale servers are considered to be storage systems.

Tape Automation

Tape automation or tape libraries are defined as a mechanical subsystem in which one or more tape drives and more than two tape cartridges are integrated together in a rack configuration or free-standing floor unit. Furthermore, the tape libraries have the ability to move tape cartridges, without human intervention, from one drive to another. This is typically done with robotic arms or actuators that reside inside the tape library unit. Tape automation and libraries are categorized in two ways: by tape drive technology and by size of library. Tape automation and library products reported by segment, like drives, are based on tape drive technology. Furthermore, tape automation and library products are reported by the maximum number of tape cartridges that can be integrated in one system. The tape automation segments are based on the same tape drive technology groupings as tape drives. The three tape automation segments include the low end table automation market, the midrange tape automation market and the enterprise tape automation market.

2.1.7. Other Hardware

The market sizing for other hardware presented in the EITO summary market tables is a combination of PC components, system replacement components, monitors, and other add-ons.

- **PC components**
- **System replacement components**
- **Monitors**
- **Other Add-ons**

Other add-ons are a modeled estimate of residual system value not captured in the initial sales value of PC and server computer systems. This includes components that are essential to the operation of PC and server systems but not sold as part of the assembled computer system (initial system value). This estimate is created through a review of system value growth trends across all regions and in consultation with research conducted globally and locally into those component add-on markets for which published research is available.

2.1.8. Monitors

Monitors/displays as reported in this study consist of the following two categories:

- **Liquid Crystal Display (LCD)**

Flat-panel monitors that are built around thin film transistor–liquid crystal displays (TFT-LCDs) are often referred to as LCD monitors, or flat-panel displays. This study only includes tracking LCD monitors designed to be used in conjunction with PCs, workstations, or similar devices. Emerging display technologies such as field emission displays (FEDs) or organic light-emitting diodes (OLEDs) are not included. Pure LCD-TVs are also not counted.

- **Cathode Ray Tube (CRT)**

Traditional, Cathode-Ray Tube monitors (CRTs) are a technology being phased out, as CRT tube supply dwindles.

The unit shipments for both categories are further subdivided into form factors, markets and sizes. A size, such as 19in., may cross several platforms such as form factors, aspect ratio, markets, channels or end-users. CRT and LCD sizes are classified by individual screen size, LCDs are also split by wide-screen and standard aspect ratios.

2.2. Software

Software is a set of instructions that cause a computer to perform one or more tasks. The set of instructions is often called a program or, if the set is particularly large and complex, a system. Computers cannot do any useful work without instructions from software; thus, a combination of software and hardware (the computer) is necessary to do any computerized work. IDC's software research programs maintain a centralized database that includes worldwide total packaged software revenue for more than 1,000 software vendors. We do not contend that this is an exhaustive list of software providers; in fact, we believe there are more than 10,000 such suppliers. However, our database is designed to support very precise forecasting, and the suppliers in the database represent a majority of the software market's revenue overall and a majority of the revenue in each of the various segmentations it supports. The revenue is allocated to functional market segments, geographic areas, revenue types, industries, channels, and operating environments. The functional software markets defined by the taxonomy represent a collectively exhaustive and mutually exclusive view of the worldwide software marketplace. Total packaged software revenue is defined as license revenue plus maintenance revenue plus subscription and other software revenue. It is primarily the total packaged software revenue that is further allocated to markets, geographic areas, and operating environments. In addition to total packaged software revenue, IDC collects software license revenue, software maintenance revenue, subscription and other software-related revenue, and total company revenue.

As the Worldwide Black Book aims to track total end-user IT spending, a further uplift to total packaged software revenue is then applied. This is done by applying average channel margins across each primary software market. These channel uplift ratios are reviewed annually by software market analysts and updated where necessary to take into account any increases or reductions in average channel uplift margins. IDC uses the term packaged software to distinguish commercially available software from custom software, not to imply that the software must be shrink-wrapped or otherwise provided via physical media. Packaged software is programs or code sets of any type commercially available through sale, lease, or rental, or as a service. Packaged software revenue typically includes fees for initial and continued right-to-use packaged software licenses. These fees may include, as part of the license contract, access to product support and/or other services that are inseparable from the right-to-use license fee structure, or this support may be priced separately. Upgrades may be included in the continuing right of use or may be priced separately. All of the above are counted by IDC as packaged software revenue.

Packaged software revenue excludes service revenue derived from training, consulting, and systems integration that is separate (or unbundled) from the right-to-use license but does include the implicit value of software included in a service that offers software functionality by a different pricing scheme.

The Worldwide Black Book segments total packaged software spending by the three primary markets of system infrastructure, application development and deployment, and applications. The three primary markets together make up the worldwide software market. These primary markets are further divided into 19 secondary and 81 functional markets, as published elsewhere in IDC research programs.

2.2.1. System Infrastructure Software

System infrastructure software is divided into four categories: system and network management software, security software, storage software, and system software.

System and Network Management

System and network management software is used to manage all the computing resources for the end user, small business, workgroup, or enterprise, including systems, applications, and the network infrastructure. This market does not include storage management and other storage software. System and network management software breaks down into the following categories: event management, workload scheduling and automation, output management, performance management, change and configuration management, problem management, and network management.

Security

The security market includes a wide range of technologies used to improve the security of computers, information systems, Internet communications, networks, and transactions. It is used for confidentiality, integrity, privacy, and assurance. Through the use of security applications, organizations can provide security management, access control, authentication, malware protection, encryption, data loss prevention, intrusion detection and prevention, vulnerability assessment, and perimeter defense. All these tools are designed to improve the security of an organization's networking infrastructure and help advance value-added services and capabilities. Security software includes traditional security software as well as security software-as-a service (SaaS) offerings. The market covers both corporate and consumer security software.

Storage Software

Storage software manages and assures the accessibility, availability, and performance of information stored on physical storage media. This category does not include operating systems or subsystems. The storage software secondary market is broken down into eight functional software markets: data protection and recovery, storage replication, archiving, file system, storage management, storage infrastructure, storage device management, and "other" storage software.

System software

System software is the foundation of software products that collectively operate the hardware on which

business applications are built. The system software market breaks down into the following categories: operating systems and subsystems, availability and clustering, application and user session virtualization, virtual machine software, and "other" system software.

2.2.2. Application Development and Deployment

The application development and deployment market consists of the following: structured data management software, application development software, quality and life-cycle tools, application server middleware, integration and process automation middleware, "other" application development and deployment, and data access and delivery software. Structured Data Management Software

Information and data management software includes products that manage a common set of defined data that is kept in one or more databases (structures of managed data shared by multiple application programs) and is driven by data definitions and rules, whether this involves single databases accessed directly by applications or distributed databases accessed by multiple applications in multiple locations. The distinguishing characteristic of all information and data management software products is that they use definitions of data structure and behavior along with rules governing their integrity, validity, security and, in some cases, alternative formats to manage the storage, movement, and manipulation of data kept in databases. The user community for structured data management software typically includes database administrators, data modeling analysts, data administrators, and developers of database-intensive applications. Application Development

The application development software markets include software, tools, and development environments used by developers, business analysts, and other professionals to create both Web-based and traditional applications. Development languages, environments, and tools; business rules engines; model-driven development software; and Web site design and development tools are included. Application development software also encompasses markets pertaining to component-based development.

Quality and Life-cycle Tools

Quality and life-cycle tools support the process of software development and deployment. This category includes automated software quality tools and software configuration management tools.

Application Server Middleware

Application server middleware is the foundation of modern applications, whether custom developed or packaged. It is also the foundation for many types of software infrastructure, such as portals, content management systems, or enterprise service buses (ESBs). This middleware executes application logic, mediates access to data sources, and provides quality of service (QoS) to offer scalability, performance, reliability, and security to applications. Applications built on modern application server middleware are used over TCP/IP networks and are built using standard frameworks, such as Java Enterprise Edition (JEE), .NET, and Spring. Older legacy application server middleware is deployed on mainframes. This

class of middleware also offers ancillary capabilities associated with tooling for Web application configuration and synchronizing content for Web applications.

Integration and Process Automation Middleware

The integration and process automation middleware markets include tools used by developers, business analysts, and administrators to automate processes, create and deploy process-centric applications, integrate applications, exchange data between enterprises, and monitor the business and process performance of these applications and automated processes. This middleware is deployed on-premise as software implemented on servers, in appliances, and as hosted offerings fitting into the software-as-a-service model.

"Other" Development and Deployment Software

"Other" development and deployment software is made up of software tools, utilities, and development environments used by developers, business analysts, and other professionals to support the creation, maintenance, and optimization of applications, information resources, and systems.

Data access, Analysis, and Delivery

Data access, analysis, and delivery products are end user-oriented tools for ad hoc data access, analysis, and reporting as well as production reporting. Products in this category are most commonly used by information consumers or power users rather than by professional programmers. Examples include query, reporting, multidimensional analysis, and data mining and statistics tools.

2.2.3. Applications

Packaged application software includes consumer, commercial, industrial, and technical programs and codesets designed to automate specific sets of business processes in an industry or business function, to make groups or individuals in organizations more productive, or to support entertainment, education, or data processing in personal activity. The packaged application market includes the consumer, collaboration, content, and enterprise applications subsegments; the enterprise applications market, in turn, is made up of the enterprise resource management, supply chain management, operations and manufacturing, engineering, and CRM applications markets.

2.3. IT Services

IT services is defined as the provision of labor-based services, which assist individuals and organizations in the implementation, management, and operation of computer systems, peripherals, storage, network equipment, and software.

Organizations providing IT services typically deliver some or all of a variety of services ranging from support to complete IT operations management and outsourcing.

IDC's services market research covers services provided to various buyer segments by external companies for planning, building, supporting, and managing systems and processes. IT services primarily target information systems and technology-enabled processes. Business services primarily target business processes that may or may not incorporate any technology. IDC's view of the IT services marketplace (excluding business services) is presented in the Worldwide Black Book.

IDC uses two approaches to analyze the composition of IT services: engagement and activity groups. Both approaches break down delivery of a given service to its component elements, called activities in the services taxonomy. The engagement view classifies services based on how clients purchase them from suppliers. The activity view classifies similar activities into one of five groupings, which correlate to the stages of services delivery. The Worldwide Black Book presents the IT services market segmented by these five activity groups, which are described in the sections that follow.

2.3.1. Planning

Planning consists of the assessment and evaluation of organizations' needs and operations to make decisions regarding their IT strategies and tactics. These activities include process improvement, operations assessment, benchmarking, needs assessment, strategy, capacity planning, change management, maintenance planning, design, and supplier analysis.

2.3.2. Implementation

Implementation refers to the building of technical solutions. At a point in the planning phase of a project, focus turns from concept to the actual building or prototyping of the system, and implementation activities start. Much like planning activities, implementation services are delivered as standalone activities or packaged within a larger offering, such as systems integration projects. For example, the installation of a PC would be considered a standalone installation service. However, a systems integration project aimed at building a new datacenter would include bundling implementation. Activities in this group include site preparation, project management, test and debug, system configuration, installation, software

reengineering, custom software development, packaged software customization, application interfacing and integration, relocation services, systems migration, documentation, and user experience design.

2.3.3. Management

Management activities are aimed at taking responsibility for managing components of a company's IT infrastructure or entire IT function, as in IS outsourcing. Operations activities include asset management, procurement, administration and operations, media duplication and replication, systems management, performance tuning, network management, backup and archiving, and business recovery.

2.3.4. Maintenance and Support

Maintenance and support includes activities involved with ensuring that products and systems are performing properly.

2.3.5. IT Education and Training

IT education and training activities enhance knowledge of information technology and expand its use. Training services focus on improving performance or developing new concepts, behaviors, and skills.

3. Telecommunication market

3.1. Telecommunication equipment

3.1.1. Mobile phones

All handsets that have a communications function. This category excludes pure data/e-mail devices or PDAs, while it includes all smart phones (see below). Reported revenues are based on vendor revenues plus retail distribution mark-ups but exclude any subsidies provided by carriers and service providers to reduce the price of handsets paid by end users.

Mobile phone volume sales: number of mobile phones sold during calendar year through retail distribution channels, excluding unsold inventories

3.1.2. Smart phones

Handsets powered by modern mobile Operating System (as opposed to Real Time OS) such as Windows Mobile, Blackberry OS, Web OS, iPhone OS, Android, Symbian S60 (not S40) and providing the users with advanced features such as PC syncing capabilities or the ability to add third party applications.

3.1.3. Fixed phones and CPEs

Fixed consumer devices (DECT, etc.), corporate telephone devices, fixed IP telephony devices (IP Phones), residential broadband consumer premises equipment (CPE) including home gateways and DSL modems. (Please note that this segment is only available for EU5 countries)

3.1.4. LAN routers and switches

Equipment present on LAN networks (routers, switches, bridges and hubs); wireless LAN access points and network switches.

3.1.5. PBXs, KTS and applications

PBX (traditional and IP), key telephone systems, and applications.

3.1.6. Voice switching equipment

Traditional TDM voice switches; next generation voice switching: softswitches, media gateways and session border controllers; mobile core equipment: mobile switching centers, GGSN, SGSN.

3.1.7. WAN data routers and switches

IP routing equipment, routing and switching equipment via traditional (ATM, Frame Relay) and multi-service protocols (combining several protocols) installed on the network edge or in the core network of operators.

3.1.8. Wireline access infrastructure

Access equipment for narrowband equipment (dial-up telephony, low speed internet access); access equipment for broadband via xDSL technology (DSLAM access multiplexers, digital loop carriers DLCs) and PON technology (optical network terminals ONTs, optical line terminals OLTs).

3.1.9. Mobile access infrastructure

Access base stations for cellular networks (BTS for GSM/GPRS/EDGE and CDMA networks and Nodes B for UMTS networks) and control equipment (base station controllers); access base stations for public WLAN networks, also called hotspots.

3.1.10. Transmission equipment

Systems for multiplexing/de-multiplexing terminals or add/drop (time division switching via SDH/SONET or wavelength division (WDM) switching); optical transmission systems used in terrestrial networks (metropolitan and long-distance); deep-sea networks related equipment (amplifiers and optical switches); wireless backhaul transmission systems.

3.1.11. Support systems (OSS/BSS)

Integrated OSS/BSS systems for management of mobile and IP networks.

3.1.12. Infrastructure services

Technical services (network deployment and rollout, field maintenance, spare parts management, support and training); professional services (network design & planning, optimization, network consulting, system integration); managed services (application/service hosting, network operations outsourcing, build-operate-transfer). The segment includes exclusively infrastructure services provided by carrier equipment vendors and enterprise equipment vendors. Excluded are infrastructure services provided by other relevant market players like network integrators, carriers, and traditional IT companies.

3.1.13. Wireline capex spending

Capital expenditures of wireline (fixed) operators (excluding cable operators) and wireline division of integrated operators during calendar year

3.1.14. Mobile capex spending

Capital expenditures of mobile operators and mobile division of integrated operators during calendar year

3.2. Carrier Services

This segment includes telecom services and pay TV:

3.2.1. Fixed voice telephony

retail revenues from basic fixed-line networks and services: installation and rental fees, calls (local calls, long-distance calls, international calls, fixed-to-mobile calls); retail revenues from fixed IP telephony services. This segment includes only retail revenues (no interconnection revenues). It does not include communications related to dial-up Internet access.

3.2.2. Business data services

Dedicated data transmission networks revenues based on FR, X25, ATM, MAN or IP VPN services and revenues from retail analogue and retail digital leased lines on both permanent and dial-up connections. This segment does not include inter-operator sales of leased lines.

3.2.3. Internet access and services

Retail revenues from internet access services including both subscription and traffic for dial-up/narrowband and broadband services (xDSL, Internet via cable TV networks, broadband over fibre-optics; fixed access, radio access).

3.2.4. Mobile voice telephony

Retail revenues from voice services on wireless communication networks. Interconnection revenues are not included in this segment.

3.2.5. Mobile data services

Retail revenues from data services on wireless communication networks (SMS, MMS, data access and content), as billed by the mobile service operator. Interconnection revenues are not included in this segment.

3.2.6. Pay TV

Total subscription revenues from Pay-TV channels and services (i.e. premium channels and satellite, cable, ADSL and terrestrial bouquets).

3.2.7. Broadband subscribers

Number of Internet-access customers with a fixed connection allowing a transmission capacity of 144 kbps or more. Broadband subscriptions are including: DSL subscriptions (including ADSL, VDSL), cable modem subscriptions and other broadband subscriptions (including FTTx, FWA, PLC, satellite)

3.2.8. Cable modem subscribers

Number of subscribers at year end to a broadband access service (in excess of 144k downstream) delivered over the cable network.

3.2.9. FTTx subscribers

Number of subscribers at year end to a fibre to the home or fibre to the curb service (in excess of 144k downstream) delivered over a fibre network.

3.2.10. Mobile subscribers

Number of subscriptions to an automatic public mobile telephone service using cellular technology that provides access to the PSTN. GSM/UMTS subscriptions relate to the number of SIM cards. This includes mobile broadband datacards and USB modems for internet access via laptops/PCs.

3.2.11. 2G subscribers

Subscriptions where the user has actively used services in the 2G network.

3.2.12. 3G subscribers

Subscriptions where the user has actively used services in the 3G network.

3.2.13. VoIP subscriber

Relates to telephony via alternate forms of access, xDSL, cable television, LAN, etc. This relates to the form of IP telephony where an ordinary telephone is linked to a broadband connection via, for example, a terminal adapter. Alternatively, an IP telephone or the corresponding is used, which is linked directly to a broadband connection.

3.2.14. Cable TV subscribers

Number of TV households paying a monthly fee to access a pay-TV offer (either analog or digital) via a cable-operator

3.2.15. Satellite TV subscribers

Number of TV households paying a monthly fee to access a pay-TV offer (either analog or digital) via a satellite operator

3.2.16. TVoIP subscribers

Number of TV households paying a monthly fee to access a pay-TV offer (either analog or digital) via a IPTV operator

3.2.17. Digital TV subscribers

Number of TV households paying a monthly fee to access a digital pay-TV offer (either by cable, satellite, IPTV or DTT).

4. Consumer Electronics market

The Consumer Electronics market estimates and forecasts are based on extrapolated GfK retail panels and GfK estimations, partly on co-operation with CE industry associations. Data published for the previous year are as of November, anticipating Christmas trade. As a result GfK revises these data the following March, after data for the previous year have been confirmed.

4.1.1. Total Consumer Electronics

All products mentioned below

4.1.2. Flat screen TV

Plasma display TV, Liquid-crystal display TV

4.1.3. Hybrid TV

Flat Screen TVs with Internet connections

4.1.4. Blu-ray Disc and HD DVD players

Blu-ray Disc, HD DVD players

4.1.5. Digital still cameras

Digital Still Cameras, including Compact Fixed Lens, Compact Interchangeable Lens (Mirrorless), Digital SLR

4.1.6. Digital set-top boxes and kits

Set-top boxes and satellite sets (set-top box and dish in one package)

4.1.7. MP3 and MPEG4 Players

MP3 and MPEG4 Players

4.1.8. Audio home systems

Home Audio Systems, Hi-Fi Elements inc. Loudspeakers, Audio Video Accessories

4.1.9. Home cinema systems

Audio home systems with digital Dolby and DVD player in one box

4.1.10. Game consoles

Home game consoles, portable game consoles

4.1.11. E-Readers

E-Readers are all kind of dedicated hardware devices which are primarily designed to display printed content related to books, magazines, newspapers or any other print media in an epd (electronic paper display) respectively in a digital paper-like look format (e.g. e-books, e-articles, e-papers, etc.) by using e-ink and/or any other visual technology. E-Readers with multiple displays, personal organisers and translators are also included. Excluded are software-ebooks respectively software e-book-reader which are monitored within 686 software.

4.1.12. Car navigation

Car navigation (fix-install, portable car navigation)

4.1.13. Other consumer electronics

CRT TV, Projection TV, DVD Player/Recorder, Digital Camcorder, Analogue Personal Audio Sets, Digital Multimedia Players, Digital Recording Media