

# **ICT sector indicators**

Methodological report

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## Introduction

The growth and development of Information and Communications Technologies (ICT) and the infrastructures that sustain them have, in turn, been accompanied by an increase in applications and the dissemination of their use in developed economies over the past decades. There is no doubt that the rapid development of ICT and their incremental use in enterprises, Public Administrations and households are having an important impact on all areas of the economy and society.

Information is increasingly contributing to the creation of added value for most products (goods and services), while intensive knowledge activities characterise social and economic behaviour more and more. Thus, it is important to have analytical instruments that allow for the comprehension of the functioning, tendencies and implications of the Information Society (IS).

The demand for statistical information on the Information Society has increased significantly these past years, promoting the launching of a new statistical field that studies both the development and the impact of the use of ICT on the economy and society. More specifically, the statistics on the Information Society encompass issues related to the production, preparation for use and impact of ICT, and of digital content services.

The conceptual framework for the statistical measurement of the IS considers four key elements:

- The ICT supply, which includes the production enterprises that develop, produce and market ICT goods and services, and comprise the so-called ICT Sector.
- The ICT demand, which includes all users, whether public or private, of the information and communications technologies.
- ICT products.
- Digital content and services.

From the perspective of the ITC supply, the current study attempts to offer relevant information on the commonly named ICT Sector, that is, on the manufacturing and services industries whose main activity is linked to the development, production, marketing and intensive use of information technologies, and characterised by high rates of innovation, technological progress and productivity, producing a considerable impact on economic activity.

For statistical purposes, the definition of the ICT Sector is developed through an exhaustive listing of the branches of activity corresponding to ICT enterprises (focus by sector) and ICT products (focus by product).

This statistical operation describes the ICT Sector, bearing in mind results of business demography, economic activity and employment in ICT enterprises, as well as results of foreign production and trade of ICT goods and services.

In order to determine the list of activities and products in the ICT sector, we have begun with the methodological work carried out by the main international

organisms (OECD, Eurostat and UN), which have been making a valuable effort for the purpose of unifying concepts and harmonising methodologies on an international level. From the very beginning, the National Statistics Institute (INE) has followed all the international initiatives carried out on the subject.

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## Background

The Organisation for Economic Cooperation and Development (OECD) plays a fundamental role in the study of the ICT Sector on an international level.

The definition of the ICT Sector is one of the main tasks undertaken by the *Working Party on Indicators for the Information Society* (WPIIS), formally created in April 1999. This group took as a base the first related studies, presented by Canada (1997) and Australia (1998) in the heart of the *OECD Ad Hoc Meeting on Indicators for the Information Society*, forerunner forum of the WPIIS. These studies dealt with subjects as relevant as the most adequate classification of economic activities in order to correctly define the ICT Sector, or the possible overlapping of ICT service provider enterprises and producers of digital content.

Based on these first studies and on later contributions to them carried out by the *Task Force on Information Society Statistics* of the European Commission and some Nordic countries, the WPIIS decided to draw up a formal definition of the ICT Sector in two stages. The first would be centred on the definition of the ICT industries and the second on writing an exhaustive list of ICT products.

- Regarding the definition of the ICT industries, it was agreed to begin with the definition of the *restricted ICT Sector*, focusing on the activities aimed at facilitating the transmission, reception and exposure of information, leaving the definition of the *broadened ICT Sector* for a later stage, definition that would include, in addition to the former, the industries directly related to the production of digital content. Both types of industry comprise the so-called *Information Economy (IE)*.

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## First definition of the ICT Sector, 1998

The listing of branches of ICT activity was compiled bearing in mind the following conceptual principles:

The industrial ICT enterprises are defined as those whose products have the aim of:

- Communication by electronic means
- Information transmission and processing
- Utilization of electronic processes for the identification and registration of physical phenomena, or in order to control physical processes.

In terms of ICT services enterprises, their products are those services that allow for the communication and processing of information via electronic means.

In order to compile the definitive listing of branches of ICT Sector activity, the International Standard Industrial Classification of All Economic Activities, ISIC-

Rev.3 was used, remembering by consensus that the classes selected according to main activity would be wholly included, and that subclasses from other industries would not be included, even if they were related to ICT activity.

Finally, the first agreed definition, passed in 1998, included the following activities:

- **Manufacturing activities**

- 3000 Manufacture of office machines and computers*

- 3130 Manufacture of insulated wire and cable*

- 3210 Manufacture of electronic valves and tubes and other electronic components*

- 3220 Manufacture of television and radio transmitters and apparatus for radiotelephony and line telegraphy*

- 3230 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods*

- 3312 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment*

- 3313 Manufacture of industrial process control equipment*

- **Service activities linked to ICT goods**

- 5150 Wholesale of machinery and equipment*

- 7123 Renting of office machines and equipment (including computers)*

- **Intangible services activities (telecommunications and computers).**

- 6420 Telecommunications*

- 72 IT Activities*

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## **Review of the first definition of the ICT sector, 2002**

In the WPIIS meetings held in 2001 and 2002, possible revisions were discussed for the 1998 classification, based on the experiences carried out by certain participating countries. The actual revision of the ISIC classification carried out in 2002 allowed for the fine-tuning of the definition of those wholesale trade activities that are directly related to ICT products. Thus, the revised classification replaced previous class 5150 "*Wholesale of machinery and equipment*" with the two following classes in terms of the ISIC Rev. 3.1:

- 5151 "*Wholesale of computers, IT equipment and software*"

- 5152 "*Wholesale of electronics and telecommunications equipment*"

Table 1 of Annex I shows the activities defining the ICT Sector by groups of activity in terms of the ISIC Rev.3.1.

Correspondence between the activities in terms of the ISIC Rev3.1 and the NCEA-Rev. 1 (Nomenclature of Economic Activities in the European Community), allows for the translation of the activities selected to the activity classes of the

CNAE-93 Rev.1 (National Classification of Economic Activities). This correspondence can also be found in Annex I.

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## **Second definition of the ICT Sector, 2007**

In the 2006 WPIIS meeting, a panel of experts was placed in charge of the revision of the definition of the ICT Sector, from both the focus of branches of activity and the perspective of the products. Delegates from the WPIIS, as well as representatives from Eurostat and the United Nations Statistics Commission, participate in this panel.

As regards the ICT industries, the group divided the definition agreed upon in 2002, for the purpose of adapting it to the revision that the ISIC had passed in 2006. The purpose of the panel of experts was to update the exhaustive list of ICT activities according to the possibilities offered by the new ISIC Rev. classification. 4, profoundly restructured as compared with the previous ISIC Rev. classification. 3.1. The new definition was passed in 2007.

According to the new definition, the general principle for identifying the ICT industries is as follows:

The ICT industries will be those whose products (goods and services) have the objective of carrying out or allowing of information processing and communication thereof via electronic means, including its transmission and visual presentation.

In table 2 of Annex I, the current definition of the ICT Sector passed in 2007 and classified according to the ISIC Rev.4 may be consulted.

Correspondence between the activities in terms of the ISIC Rev3.1 and the NACE-Rev. 2 (Nomenclature of Economic Activities in the European Community) can also be found in the same table in Annex I.

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## **The Content and Information Media sector**

In addition to redefining the group of ICT industries, the panel of experts tackled one of the most interesting subjects for the WPIIS since its origin; *THE DEFINITION OF THE CONTENT SECTOR*. This panel considered, from the very beginning, that the evolution and development of the information technologies would in turn determine the evolution of the digital content production and distribution industries. The opening and expansion of new communications channels and distribution systems have determined, for the most part, the profound structural changes experienced by the content industries over the years. For example, the expansion of the Internet network has determined new forms of distribution of news, music, video, etc., which affect all areas of the economy and society.

Following various discussions commencing in 1998, at meeting of the WPIIS in 2006, a proposal is established for defining the Content and information media sector. This proposal was presented together with the second definition of the ICT sector, and published by the WPIIS in 2007, thereby obtaining the first definition of the Information Economy sector. According to this definition, the

industries included in the Content and media sector are dedicated to production, publication and/or electronic distribution of content products.

A content product is defined as any message published in the media and related to information and communication media activities. The value of such products resides not in their tangible qualities, but rather in their informative, educational, cultural or entertainment content.

The list of industries meeting these conditions is as follows:

- Publishing of books, newspapers and other publishing activities
- Cinematographic video and television programme activities;
- Sound recording and music editing activities;
- Radio and television programming and broadcasting activities.
- Other activities on information services

Classification of this list of Content and Information Media sector activities is shown in table 3 of Annex I classified according to ISIC Rev.4.

Correspondence between the activities in terms of the ISIC Rev3.1 and the NACE-Rev. 2 (Nomenclature of Economic Activities in the European Community) can also be found in table 3 in Annex I.

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## Focus by product

In parallel to the work carried out in relation to the definition of the ICT industries, the drawing up of an exhaustive list of ICT products was part of the WPIIS agenda from the very beginning. The availability of a complete listing of ICT goods would allow for the statistical measurement of such relevant aspects as the value of the production and foreign transactions that an economy carries out relating to information and communications technologies.

With regard to the definition of ICT products, the definition of *RESTRICTED ICT PRODUCTS* was first approached, focusing on products aimed at facilitating communication, processing and transmission of information via electronic media, and leaving aside for later the definition of products directly related to digital content, the so-called Content products. The two types of products form Information Economy (IE) products.

The definition of ICT products is based on the following general principles:

- An item of ICT goods should serve to facilitate information communication, processing and transmission through electronic means. ICT goods are also those that allow for the electronic measurement or registration of physical phenomena, as well as those that serve to control physical processes through electronic means.
- An ICT service is that that facilitates the functions of communication and automatic information processing through electronic means.

The speed at which the information and communications technologies evolve determines the changing nature of ICT products, which constitutes the main difficulty in drawing up a listing of products that stands the test of time.

The first formal list prepared by the WPIIS was a list of ICT goods agreed upon in 2003. This definition was based on previous work carried out by the OECD, Eurostat and Canada, and presented and debated in the subsequent WPIIS meetings between 1998 and 2002.

The ICT goods considered in this list are defined according to the Harmonised System (HS) and grouped in the following large groups:

- Telecommunications equipment,
- Computers and IT equipment
- Electronic components,
- Video and audio equipment
- Other ICT goods (*office machinery and equipment, medical equipment, process control equipment, measuring, checking and navigating instruments*).

The first definition of ICT goods regarding classification HS2002 is shown in Table 1 of Annex II.

It is not easy to delimit the group of ICT goods and establish a consistent correspondence with the ICT sector branches of activity, mainly due to the fact that there is no exact agreement between industries and goods produced. The enterprises of the ICT Sector may produce types of goods other than those considered to be ICT goods. Likewise, the industries whose main activity does not correspond to the ICT Sector, may obtain ICT products as a result of secondary activities. In addition to this conflicting definition, in general, the classifications of economic products and activities differ considerably in terms of their structure and objectives, which hampers the establishment of correspondence between them.

The decision to consider the HS as a support classification for the definition of ICT goods was motivated by the broad acceptance of this classification on an international level, which readily allows for comparative exercises.

Nevertheless, this classification is not the most appropriate for defining intangible goods such as **software**, which was eventually decided to include among the ICT services.

Another of the purposes of the panel of experts created in 2006 in the heart of the WPIIS is to review the definition of ICT goods and adapt it to the new HS 2007 classification. The objective of the group is for this review to be consistent with both the revised CPC 2007 classification and the new listing of ICT sectors in terms of the ISIC Rev.4. In the year 2008 the second definition of ICT goods regarding CPC Version2 classification is published.

Regarding the **ICT services**, it was not until 2004 that the WPIIS prepared a proposal for the definition of ICT services. In this case, the initial classification used was the United Nations Central Product Classification (CPC).

As with the ICT goods, it is not possible to establish an exact correspondence between industries and services produced. In addition, in some cases, it is not

clear whether a product should be considered an ICT good or an ICT service. Given the numerous difficulties found in this sense when drawing up the listing of ICT services, in 2004 the WPIIS agreed to submit a proposal to the technical commission of the United Nations that was in charge of the review of the CPC. The recommendations for a correct definition of the ICT products were almost all accepted.

After the WPIIS for the year 2006, in 2007 the first definition of ICT services is presented, based on the first draft of Version2 of the Central Classification of Products (CPC Version2).

According to this definition, the definition of ICT products (goods and services) classified according to the CPC (Version 2) developed by the UNSD was established in 2008. In Table 2 of Annex II, the classification of ICT products is presented. The codes and titles presented are based on the CPC (Ver.2) for December 2008. In case of future changes to this version, the ISIC official final codes, titles and links ISIC will prevail.

According to this definition, an ICT product will be that whose purpose is carrying out or allowing information processing and communication thereof via electronic means, including its transmission and visual presentation.

The classification of ICT products considers 10 categories and 99 products:

- Computers and peripherals
- Equipment for communications
- Electronic components
- Other ICT goods and components
- ICT equipment manufacturing services
- Business licence and software services
- IT services and consultancy
- Telecommunications services
- ICT equipment rental services
- Other ICT services

The correspondence of the CPC Version2 with activities in terms of the ISIC Rev4, may be consulted in the same table, table 2 of Annex II.

The immediate implementation of this definition of ICT products is not possible. For this reason, the results on ICT Sector products in Spain published thus far by the INE, were prepared taking into account the first definition of goods regarding classification ICT HS2002 (2003).

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## **Content and Information Media Products**

The first proposal for products from the sector Content and Information media sector was made public in 2008, following several discussions that commenced in 1998 and continued in the WPIIS meetings. Said proposal was adapted to the draft of the CPC definition. Version2.



With this list of Content and Information Media products, a first classification of Information Economy (IE) products. Supplementary proposal with the definition of the Information Economy sector published by the WPIIS in 2007.

A content product is defined as any message published in the media, related to information and communication media activities. The value of such products resides not in their tangible qualities, but rather in their informative, educational, cultural or entertainment content

The classification of Content and Information Media products proposal is considered in 6 groups:

- Forms and other texts based on content and communication media, and related services
- Films, television, video, radio content, and related services
- Musical content and related services
- Games software
- On-line content and related services
- Other content and related services

The definition of Content and Information media Sector products is presented in Table 3 of Annex II.

The codes and titles presented are based on the draft of the CPC for December 2008. In case of future changes to this version, the official final titles will prevail

The correspondence of the CPC Version2 with activities in terms of the ISIC Rev4, may be consulted in the same table, Table 3 of Annex II.

Immediate implementation of this definition of Content and Information Media Products is not possible, therefore the INE does not currently publish results for Content and Information Media products.

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### **Reference period**

'ICT Sector Indicators' are published with reference to year t-2, t being the current year.

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### **Collection frequency**

Data is collected on an annual basis during the first half-year.

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### **Information sources**

The "ICT Sector Indicators" constitute a synthesis study that, through the collection of statistical information from several sources, intends to illustrate the situation of the information and communications technologies sector.

The results tables included in this publication have been obtained from various previously statistical operations. For all sources of information used in the focus by sector, the data was classified according to the main activity of the enterprise, understanding this to be that activity that generates the greatest added value or, failing that, that activity that provides the greatest production value, or uses the highest number of employees. Given the level of detail of the definitions of the branches of activity and ICT products, it is not possible to obtain representative results at the desired level of breakdown for all the statistical sources consulted. For each of the statistical operations used, we have chosen to offer the most broken-down information possible, maintaining an optimum level of representation.

The following is a brief review of the sources used and the data obtained from each of them.

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## Structural Business Statistics: Industrial Sector

The population under study in the Industrial Sector is the total number of enterprises without employees (since 2012) or with one or more paid employees, and whose main activity features in sections B to E of the CNAE 2009 . That is, the survey covers the extractive and manufacturing industries and the production and distribution of electrical energy, gas and water throughout the country.

For the reference period, information was obtained on the number of enterprises, number of establishments, turnover, value of product sales, total added value and employment, for all those industrial enterprises belonging to the ICT Sector.

Economic figures referred to the total of the national territory are calculated according to the enterprise's main activity.

The following presents the definitions of the variables of the Industrial Survey of enterprises that are used in this publication:

- **Turnover.** This is the total amount resulting from the sum of the net commercial sales of goods and services supplied to third parties. It is the result obtained from deducting the sum of the sale of products, merchandise and the like, and of the provision of services corresponding to ordinary enterprise activities, the amount from discounts and other bonuses on sales, as well as VAT and other directly-related taxes.
- **Sale of products.** This refers to the total sum of sales of completed products, products in progress, by-products, waste, containers and packaging, carried out by the enterprise during the reference year. The value of the net sales is calculated (once the discounts are subtracted), valued at sale prices, without including transport expenses or taxes on these operations.
- **Gross added value at factor cost.** This is the gross income from operating activities after adjusting for the effect of operating subsidies and indirect taxes.

- **Employment.** Employed persons are understood to be the group of permanent and temporary employed persons who, during the reference year of the data, were carrying out paid or unpaid work for the enterprise, and belonging to and being paid by said enterprise.

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## **Structural Business Statistics: Services Sector**

The population scope covered by the Services Sector is the set of national enterprises dedicated to trade, tourism, transport, information technologies, real estate and rental activities and enterprise services.

Information has been obtained for the reference period regarding the number of enterprises, turnover, total added value and employment of the enterprises belonging to the services branches of the ICT Sector.

The definitions of the variables obtained from the Services Sector are equivalent to those of the Industrial Sector.

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## **Quarterly Labour Cost Survey (QLCS)**

Substituting for the old Wage Survey for Industry and Services, the Quarterly Labour Cost Survey (QLCS) is a short-term statistical operation whose aim is to provide information on the average labour cost per worker per month, the average labour cost per effective hour worked, and the time worked and not worked.

The survey covers the entire country, and comprises all workers employed by others who are associated to contribution accounts, regardless of their size, included in the General Social Security Regime and the Special Scheme for Miners.

Obtained from the QLCS, with reference period 4th quarter of the reference period, are the data on total labour cost per worker per month, and labour cost per effective hour in the ICT sector, defined to a two-digit level of the NCEA. According to economic activity, this statistical operation offers representative results on a division level of the NCEA (two-digit codes). Given that the ICT sector is comprised of activities defined to four digits of the NCEA, the data provided are the best possible approximation from the existing information.

The concept of wage earnings comprises all remunerations, both in cash and in kind, paid to workers for the professional provision of their labour services, employed by others, whether paying effective work, whatever the form of remuneration, or the rest periods accounted for as work.

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## **Statistics on Scientific Research and Technological Development Activities (R&D)**

Based on the Statistics on R&D activities of the reference period, information has been obtained regarding the personnel dedicated to research activities, as well as the expenditure made on these. For the purposes of this publication, only the

business sector is considered, although the R&D Statistics also cover the institutional sectors of Higher Education, Public Administration and Private Non-Profit Institutions.

A summary of the variables definitions that are used in this publication is presented below:

- **R&D activities.** These comprise the creative work carried out to increase the volume of knowledge, including the knowledge of man, culture and society, and the use of that knowledge to create new applications. These activities may be developed within the enterprise (internal R&D) or may have been acquired from other enterprises (external R&D).

According to the previous definition, R&D includes the creative work that is undertaken systematically. The systematic nature implies a minimum of infrastructures, regarding both organisation and means, continuously used by the enterprise for R&D. For the purposes of these statistics, the systematic nature shall be placed on the same level as the annual hiring of at least one researcher on a full-time equivalent.

Since the year 2002, the R&D variables and indicators described in the following points refer to both continuous R&D and occasional R&D.

- **Personnel employed in R&D activities.** R&D personnel is defined as all personnel directly employed in R&D activities, without distinguishing their level of responsibility, as well as those who supply services directly linked to R&D work, such as managers, administrators and office personnel.

Personnel data may be measured in two ways: in the number of individuals - accounted for at 31 December of the reference year - and in the personnel on a full-time equivalent - the sum of the personnel working full-time, plus the sum of the fractions of time of the personnel working part-time. For the purposes of this publication, the measurement of R&D personnel is presented on a full-time equivalent.

- **Researchers.** These are scientists and engineers involved in the concept or creation of new knowledge, products, processes, methods and systems in the management of the corresponding projects.

Also included are managers and administrators dedicated to the planning and management of the scientific and technical aspects of the work of the researchers and which, normally, has a category equal or superior to that of persons employed directly as researchers, often dealing with former researchers or part-time researchers.

Also included are graduate students with a "study salary/grant" who carry out R&D activities.

- **Expenditure on internal R&D activities.** This comprises current and capital expenses on R&D activities carried out within the enterprise, regardless of the origin of the funds. Those expenses made outside of the enterprise, but in support of internal R&D tasks (purchase of R&D supplies, for example), are also included.

The definitions correspond to the methodology proposed in the fifth edition of the Frascati Manual, ensuring international comparability.

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## Innovation in Enterprises Survey

The Technological Innovation in Enterprises Survey is aimed at all industrial, construction and services enterprises with at least ten remunerated employed persons.

We have obtained, from the statistical operation of the reference period, the proportion of innovative enterprises or of enterprises that have made some innovative effort, as well as those expenses on innovation and the intensity of R&D and innovation.

A summary of the variables definitions that are used in this publication is presented below:

**Innovative enterprise.** This is considered to be that enterprise that has introduced or implemented, in the last three years, a new or improved product or business process that differs significantly from previous business products or processes in the company.

Distinction is made between the following types of innovative enterprise:

- Product.
- Business process.
- Products and Business process.

Innovative enterprises are accounted for in the three years immediately prior to the year that the survey is conducted.

• **Innovative activities.** This concept encompasses the set of financial, development and transformation activities carried out by the enterprise, which aim at or have generated an innovation.

R+D is one of these activities and may be carried out in different stages of the innovation process. It is used not only as a source of innovative ideas but also to solve problems that may occur in any phase of the process until its completion.

In addition to R&D activities, engineering, design and other creative activities are included as innovative activities; marketing and branding; activities related to intellectual property rights; activities related to staff training; development of the software and activities related to the work of databases and activities related to the acquisition or rental of tangible goods.

• **Expenditure on innovative activities.** Total costs of all innovative activities including internal and external R&D expenses, and expenses related to the remaining innovative activities mentioned in the previous section.

To ensure international comparability, innovation expenses include all expenses of the enterprise on innovation projects, whether they are successful or not. Also included are R+D costs that are not related to a specific product or process (basic research).

It is necessary to note that, in order to measure the entire expenditure on innovative activities, for the purposes of innovation expenses, occasional R&D activities are also considered.

**Enterprise with innovative activities.** This term encompasses innovative enterprises (in the sense of the previous definition) and therefore have completed innovative activities, plus enterprises with ongoing or abandoned innovative activities. It is, therefore, a measure of the group of enterprises that has made an effort in innovation, whether it has come to an end successfully or if it has been abandoned or remains ongoing.

Like innovative enterprises, enterprises with innovative activities are counted in the three years immediately preceding the year of the survey.

• **Intensity of Innovation.** This is defined as the quotient between the expenditure on innovative activities, and turnover, during a given period, expressed as a percentage.

The definitions adapt to the 2018 Oslo Manual, and are therefore internationally comparable.

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## **Survey on the Use of Information and Communication Technologies and Electronic Commerce in Enterprises**

This statistical research studies the equipment and use of information and communication technologies by Spanish enterprises, as well as the use of electronic commerce. The target population comprises all of the enterprises with 10 or more employees belonging to Sections C to N (excluding section K) and including the group 95.1 of the section S of CNAE-2009 (i.e., the manufacturing industry; production and distribution of energy, gas and water; construction, trade; accommodation; transport and storage; information and communications; rental activities; profesional, scientific and technical activities; administrative activities and auxiliary services; repair of computers and equipments of communication).

From the results of the survey of the reference period, the main indicators have been obtained regarding the use of Information and Communication Technologies by enterprises belonging to the ICT Sector.

The statistical results tables were obtained from two already existing sources of information, one from the INE (Industrial Products Survey), and the other from the Department of Customs and Special Taxes of the State Tax Administration Agency (Foreign Trade Statistics).

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### **Industrial Products Survey**

The target population of study is aimed at the industrial establishments that account for 90% of the production of each class of the CNAE 2009 (to four digits). For each one of these classes, industrial establishments belonging to enterprises

with 20 employed persons or more are surveyed, regardless of the main activity of the enterprise to which they belong. For certain classes (more than 50%), industrial establishments of enterprises with 10 employed persons or more are also surveyed.

From the Industrial Products Survey of the reference period, the production value has been obtained for each of the elements of the list of products of the ICT Sector.

This Survey uses the NCPA classification, which is compatible with the PRODCOM community nomenclature.

As they do not belong to the study scope of this statistical operation, the results on some of them are not available.

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## **Foreign Trade Statistics**

Annual data on the import and export of products of the reference period have been obtained from the Tax Administration State Agency web page. The Department of Customs and Special Taxes collects said information from the Customs Clearance Declaration, as well as from the "Intrastat" Statistical Declaration, classifying products according to the Combined Nomenclature.

In order to obtain the data corresponding to imports, exports and trade deficit, according to the classification proposed by the OECD, a correspondence was established between the NCPA and Combined Nomenclature classifications.

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## **Tabulation of results**

The tabulation of results offered includes detailed results for the reference period, according to the sector and product focuses, as well as the evolution of the main aggregates in recent years.

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## **Dissemination of results**

Results are published annually, midway through the year, on the INE website.

## ANNEX I FOCUS BY ACTIVITY OF THE IE SECTOR

*Table 1: First definition of the ICT Sector (Revision of year 2002)*  
(Based on ISIC Rev3.1, NACE Rev.1 and CNAE-93 Rev.1).

| MANUFACTURE     |            |               |  |
|-----------------|------------|---------------|--|
| ISIC (Rev. 3.1) | NACE Rev.1 | CNAE-93 Rev.1 | ACTIVITIES   |
| 3000            | 3001       | 3001          | Manufacture of office machinery  |
|                 | 3002       | 3002          | Manufacture of accounting and computing machinery  |
| 3130            | 3130       | 3130          | Manufacture of insulated wire and cable  |
| 3210            | 3210       | 3210          | Manufacture of electronic valves and tubes and other electronic components                                   |
| 3220            | 3220       | 3220          | Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy        |
| 3230            | 3230       | 3230          | Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes    |
| 3312            | 3320       | 3320          | for measuring, checking, testing, navigating and other purposes, except industrial process control equipment |
| 3313            | 3330       | 3330          | Manufacture of industrial process control equipment  |

| SERVICES        |      |               |  |
|-----------------|------|---------------|--|
| ISIC (Rev. 3.1) | NACE | CNAE-93 Rev.1 | ACTIVITIES   |
| 5152            | 5186 | 5160          | Wholesale of electronic and telecommunications parts and equipment   |
| 5151            | 5184 | 5167          | Wholesale of computers, computer peripheral equipment and software   |
| 6420            | 6420 | 6420          | Telecommunications   |
| 7123            | 7133 | 7133          | Renting of office machinery and equipment (including computers)      |
| 72              | 7210 | 7210          | Hardware consultancy   |
|                 | 7221 | 7221          | Software publishing  |
|                 | 7222 | 7222          | Other software consultancy and supply                                |
|                 | 7230 | 7230          | Data processing  |
|                 | 7240 | 7240          | Database activities and online distribution of electronic content    |
|                 | 7250 | 7250          | Maintenance and repair of office, accounting and computing machinery |
|                 | 7260 | 7260          | Other computer related activities                                    |



*Table 2 Second definition of the ICT Sector (Year 2007)*  
*(Based on ISIC Rev4, NACE Rev.2).*

| ICT manufacturing industries                                 |            |  |
|--|------------|--|
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 2610   | 26.11      | Manufacture of electronic components                               |
|  | 26.12      | Manufacture of loaded electronic boards                            |
| 2620   | 26.20      | Manufacture of computers and peripheral equipment                  |
| 2630   | 26.30      | Manufacture of communication equipment                             |
| 2640   | 26.40      | Manufacture of consumer electronics                                |
| 2680   | 26.80      | Manufacture of magnetic and optical media                          |
| ICT trade industries   |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 4651   | 46.51      | Wholesale of computers, computer peripheral equipment and software |
| 4652   | 46.52      | Wholesale of electronic and telecommunications equipment and parts |
| ICT services industries                                      |            |  |
| Software publishing  |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 5820   | 58.21      | Publishing of computer games                                       |
|  | 58.29      | Other software publishing  |
| Telecommunications   |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 6110   | 61.10      | Wired telecommunications activities                                |
| 6120   | 61.20      | Wireless telecommunications activities                             |
| 6130   | 61.30      | Satellite telecommunications activities                            |
| 6190   | 61.90      | Other telecommunications activities                                |
| Information technology service activities                    |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 6201   | 62.01      | Computer programming activities                                    |
| 6202   | 62.02      | Information technology consultancy activities                      |
|  | 62.03      | Computer facilities management activities                          |
| 6209   | 62.09      | Other information technology service activities                    |
| Web portals, data processing, hosting and related activities |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 6311   | 63.11      | Data processing, hosting and related activities                    |
| 6312   | 63.12      | Web portals  |
| Repair of computers and communication equipment              |            |  |
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES   |
| 9511   | 95.11      | Repair of computers and peripheral equipment                       |
| 9512   | 95.12      | Repair of communication equipment                                  |

Table 3: Definition of the Content and Information Media Sector (Year 2007)  
(Based on ISIC Rev.4, NACE Rev.2).

| Publishing of books, periodicals and other publishing activities |            |   |
|--|------------|---|
| ISIC (Rev.4)   | NACE Rev.2 | ACTIVITIES                                  |
| 5811   | 58.11      | Book publishing                             |
| 5812   | 58.12      | Publishing of directories and mailing lists |
| 5813   | 58.13      | Publishing of newspapers                    |
|  | 58.14      | Publishing of journals                      |
| 5819   | 58.19      | Other publishing activities                 |

| Motion picture, video and television programme activities |            |   |
|---|------------|---|
| ISIC (Rev.4)  | NACE Rev.2 | ACTIVITIES  |
| 5911  | 59.11      | Motion picture, video and television programme production activities      |
| 5912  | 59.12      | Motion picture, video and television programme post-production activities |
| 5913  | 59.13      | Motion picture, video and television programme distribution activities    |
| 5914  | 59.14      | Motion picture projection activities                                      |

| Sound recording and music publishing activities |      |   |
|---|------|---|
| 592   | 59.2 | Sound recording and music publishing activities |

| Broadcasting and programming activities |            |  |
|---|------------|--|
| ISIC (Rev.4)                            | NACE Rev.2 | ACTIVITIES   |
| 601                                     | 60.1       | Radio broadcasting                                   |
| 602                                     | 60.2       | Television broadcasting and subscription programming |

| Other information service activities |            |   |
|--------------------------------------|------------|---|
| ISIC (Rev.4)                         | NACE Rev.2 | ACTIVITIES                                  |
| 6391                                 | 63.91      | News agency activities                      |
| 6399                                 | 63.99      | Other information service activities n.e.c. |

## ANNEX II FOCUS BY PRODUCTS OF THE IE SECTOR

Table 1 First definition of the ICT Sector (Year 2003) (Based on: HS2002).

| HS 2002 | Telecommunications equipment   |
|---------|--|
| 851711  | Line telephone sets with cordless handsets   |
| 851719  | Other telephone sets, video phones   |
| 851721  | Facsimile machines   |
| 851722  | Teleprinters   |
| 851730  | Telephonic or telegraphic switching apparatus  |
| 851750  | Other apparatus, for carrier-current line systems or for digital line systems  |
| 851780  | Other electrical apparatus for line telephony or line telegraphy   |
| 851790  | Parts for other electrical apparatus for line telephony or line telegraphy   |
| 852020  | Telephone answering machines   |
| 852510  | Transmission apparatus for radio-telephony, radio-telegraphy, radio-broadcasting or television not incorporating reception apparatus   |
| 852520  | Transmission apparatus for radio-telephony, radio-telegraphy, radio-broadcasting or television incorporating reception apparatus   |
| 852530  | Television cameras   |
| 852610  | Radar apparatus  |
| 852790  | Reception apparatus for radio-telephony, radio-telegraphy or radio-broadcasting, whether or not combined, in the same housing, with sound recording or reproducing apparatus or a clock, n.e.s |
| 852910  | Aerials and aerial reflectors of all kinds; parts suitable for use therewith   |
| 853110  | Burglar or fire alarms and similar apparatus   |
| 854420  | Co-axial cable and other co-axial electric conductors  |
| 854470  | Optical fibre cables   |
| HS 2002 | Computer and related equipment   |
| 847110  | Analogue or hybrid automatic data processing machines  |
| 847130  | Portable digital automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display                                  |
| 847141  | Digital automatic data processing machines comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined                             |
| 847149  | Other digital automatic data processing machines, presented in the form of   |
| 847150  | Digital processing units other than those of subheadings 8471.41 and   |
| 847160  | Automatic data processing machines, input or output units, whether or not containing storage units in the same housing   |
| 847170  | Automatic data processing machines, storage units  |
| 847180  | Other units of automatic data processing machines  |
| 847190  | Magnetic or optical readers, machines for transcribing data onto data media in coded form and machines for processing such data, not elsewhere specified or included                           |
| 847330  | Parts and accessories of the machines of heading No. 84.71   |

| HS 2002 | Electronic components  |
|---------|--|
| 850431  | Electrical transformers having a power handling capacity not exceeding 1 kVA   |
| 850450  | Inductors  |
| 850490  | Parts of: electrical transformers, static converters (for example, rectifiers) and inductors   |
| 852330  | Cards incorporating a magnetic stripe, unrecorded  |
| 852460  | Cards incorporating a magnetic stripe, recorded  |
| 852990  | Parts suitable for use solely or principally with the apparatus of headings  |
| 853221  | Capacitors, fixed, tantalum having a reactive power handling capacity of less than 0.5 kvar  |
| 853224  | Capacitors, fixed, ceramic dielectric, multilayer having a reactive power handling capacity of less than 0.5 kvar                                    |
| 853230  | Variable or adjustable (pre-set) capacitors  |
| 853310  | Fixed carbon resistors, composition or film types  |
| 853321  | Electrical resistors, fixed, (including rheostats and potentiometers), other than heating resistors, for a power handling capacity $\leq 20$ W       |
| 853329  | Electrical resistors, fixed, (including rheostats and potentiometers), other than heating resistors, n.e.s..   |
| 853331  | Wirewound variable resistors, for a power handling capacity $\leq 20$ W  |
| 853339  | Wirewound variable resistors, for a power handling capacity $\leq 20$ W  |
| 853340  | Other variable resistors, including rheostats and potentiometers   |
| 853390  | Parts for electrical resistors (including rheostats and potentiometers), other than heating resistors  |
| 853400  | Printed circuits   |
| 854011  | Cathode-ray television picture tubes, including video monitor tubes, colour  |
| 854012  | Cathode-ray television picture tubes, including video monitor tubes, black and white or other monochrome   |
| 854020  | Television camera tubes; image converters and intensifiers; other photo-cathode tubes  |
| 854040  | Data/graphic display tubes, colour, with a phosphor dot screen pitch smaller than 0.4 mm   |
| 854050  | Data/graphic display tubes, black and white or other monochrome  |
| 854060  | Other cathode-ray tubes  |
| 854071  | Microwave tubes, magnetrons, excluding grid-controlled tubes   |
| 854072  | Microwave tubes - klystrons, excluding grid-controlled tubes   |
| 854079  | Microwave tubes, other, excluding grid-controlled tubes  |
| 854081  | Receiver or amplifier valves and tubes   |
| 854089  | Valve and tubes, n.e.s.  |
| 854091  | Parts of cathode-ray tubes   |
| 854099  | Parts of thermionic or photo-cathode, valve and tubes, other than cathode-ray tubes  |
| 854110  | Diodes, other than photosensitive or light emitting diodes   |
| 854121  | Transistors, other than photosensitive, dissipation rate $< 1$ W   |
| 854129  | Transistors, other than photosensitive transistors, n.e.s.   |
| 854130  | Thyristors, diacs and triacs, other than photosensitive devices  |
| 854140  | Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light emitting diodes |
| 854150  | Other semiconductor devices  |
| 854160  | Mounted piezo-electric crystals  |
| 854190  | Parts for semiconductor devices  |
| 854210  | Cards incorporating electronic integrated circuits ("smart" cards)   |
| 854221  | Digital monolithic integrated circuits   |
| 854229  | Other monolithic integrated circuits   |
| 854260  | Hybrid integrated circuits   |
| 854270  | Electronic microassemblies   |
| 854290  | Parts for electronic integrated circuits and microassemblies   |

| HS 2002 | Audio and video equipment  |
|---------|--|
| 851810  | Microphones and stands therefor  |
| 851821  | Single loudspeakers, mounted in their enclosures   |
| 851822  | Multiple loudspeakers, mounted in the same enclosure   |
| 851829  | Other loudspeakers, n.e.s  |
| 851830  | Headphones and earphones, whether or not combined with a microphone, and sets consisting of a microphone and one or more loudspeakers                                  |
| 851840  | Audio-frequency electric amplifiers  |
| 851850  | Electric sound amplifier sets  |
| 851890  | Parts of microphones, loudspeakers, headphones, earphones, combined microphone/loudspeaker sets, audio-frequency electric amplifiers and electric sound amplifier sets |
| 851910  | Coin- or disc-operated record-players  |
| 851921  | Record-players, without loudspeaker  |
| 851929  | Record-players, n.e.s.   |
| 851931  | Turntables with automatic record changing mechanism  |
| 851939  | Turntables, n.e.s.   |
| 851940  | Transcribing machines  |
| 851992  | Pocket-size cassette-players   |
| 851993  | Other sound reproducing apparatus, cassette-type   |
| 851999  | Sound reproducing apparatus, not incorporating a sound recording device, n.e.s.  |
| 852010  | Dictating machines not capable of operating without an external source of power  |
| 852032  | Other magnetic tape recorders incorporating sound reproducing apparatus, Digital audio type  |
| 852033  | Other magnetic tape recorders incorporating sound reproducing apparatus, cassette-type   |
| 852039  | Other magnetic tape recorders incorporating sound reproducing apparatus  |
| 852090  | Magnetic tape recorders and other sound recording apparatus, whether or not incorporating a sound reproducing device, n.e.s.   |
| 852110  | Video recording or reproducing apparatus, whether or not incorporating a video tuner - magnetic tape-type  |
| 852190  | Video recording or reproducing apparatus, whether or not incorporating a video tuner - other type  |
| 852210  | Parts and accessories suitable for use solely or principally with the apparatus of headings Nos. 85.19 to 85.21 - pick-up cartridges                                   |
| 852290  | Parts and accessories suitable for use solely or principally with the apparatus of headings Nos. 85.19 to 85.21 - other  |
| 852311  | Magnetic tapes, unrecorded, width ≤ 4 mm (1/6 in.)   |
| 852312  | Magnetic tapes, unrecorded, width > 4 mm (1/6 in.) but ≤ 6.5 mm (1/4 in.)  |
| 852313  | Magnetic tapes, unrecorded, width > 6.5 mm (1/4 in.)   |
| 852320  | Magnetic discs, unrecorded   |
| 852390  | Other prepared unrecorded media for sound recording or similar recording of other phenomena, other than products of Chapter 37   |
| 852540  | Still image video cameras and other video camera recorders, digital cameras  |

|        |  |
|--------|--|
| 852712 | Pocket-size radio cassette-players capable of operating without an external source of power  |
| 852713 | Radio-broadcast receivers, capable of operating without an external source of power, combined with sound recording or reproducing apparatus  |
| 852719 | Other radio-broadcast receivers, capable of operating without an external source of power, not combined with sound recording or reproducing apparatus  |
| 852721 | Radio-broadcast receivers with sound recording or reproducing apparatus, for motor vehicles, requiring external source of power  |
| 852729 | Other radio-broadcast receivers for motor vehicles, not combined with sound recording or reproducing apparatus   |
| 852731 | Other radio-broadcast receivers, including apparatus capable of receiving also radio-telephony or radio-telegraphy, combined with sound recording or reproducing apparatus                               |
| 852732 | Other radio-broadcast receivers, including apparatus capable of receiving also radio-telephony or radio-telegraphy, not combined with sound recording or reproducing apparatus but combined with a clock |
| 852739 | Other radio-broadcast receivers, including apparatus capable of receiving radio-telephony or radio-telegraphy, n.e.s.  |
| 852812 | Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus, colour  |
| 852813 | Reception apparatus for television, whether or not incorporating radio-broadcast receivers or sound or video recording or reproducing apparatus, black and white or other monochrome                     |
| 852821 | Video monitors, colour   |
| 852822 | Video monitors, black and white or other monochrome  |
| 852830 | Video projectors   |

| HS 2002 | Other ICT goods   |
|---------|---|
| 846911  | Word-processing machines  |
| 847010  | Electronic calculators capable of operation without an external source of electric power and pocket-size data recording, reproducing and displaying machines with calculating functions |
| 847021  | Other electronic calculating machines incorporating a printing device   |
| 847029  | Other electronic calculating machines   |
| 847040  | Accounting machines   |
| 847050  | Cash registers  |
| 847310  | Parts and accessories (other than covers, carrying cases and the like) suitable for use solely or principally with machines of heading No. 84.69  |
| 847321  | Parts and accessories of the electronic calculating machines of subheading No. 8470.10, 8470.21 or 8470.29  |
| 847350  | Parts and accessories equally suitable for use with machines of two or more of the headings Nos. 84.69 to 84.72   |
| 852691  | Radio navigational aid apparatus  |
| 852692  | Radio remote control apparatus  |
| 901041  | Apparatus for the projection or drawing of circuit patterns on sensitised semiconductor materials - direct write-on-wafer apparatus   |
| 901042  | Apparatus for the projection or drawing of circuit patterns on sensitised semiconductor materials - step and repeat aligners  |
| 901049  | Apparatus for the projection or drawing of circuit patterns on sensitised semiconductor materials - other   |
| 901410  | Direction finding compasses   |
| 901420  | Instruments and appliances for aeronautical or space navigation (other than compasses)  |
| 901480  | Other navigational instruments and appliances   |
| 901490  | Parts and accessories of direction finding compasses, other navigational instruments and appliances   |
| 901540  | Photogrammetrical surveying instruments and appliances  |
| 901580  | Other surveying instruments and appliances  |
| 901811  | Electro-cardiographs  |
| 901812  | Ultrasonic scanning apparatus   |
| 901813  | Magnetic resonance imaging apparatus  |
| 901814  | Scintigraphic apparatus   |
| 901819  | Other electro-diagnostic apparatus (including apparatus for functional exploratory examination or for checking physiological parameters)  |
| 902212  | Computed tomography apparatus   |
| 902213  | Other apparatus based on the use of X-rays, for dental uses   |
| 902214  | Other apparatus based on the use of X-rays, for medical, surgical or veterinary uses  |
| 902219  | Other apparatus based on the use of X-rays, for other uses  |
| 902410  | Machines and appliances for testing the hardness, strength, compressibility, elasticity or other mechanical properties of materials, metals   |
| 902480  | Other machines and appliances for testing the hardness, strength, compressibility, elasticity or other mechanical properties of materials   |
| 902490  | Parts and accessories for machines and appliances for testing the hardness, strength, compressibility, elasticity or other mechanical properties of materials                           |
| 902620  | Instruments and apparatus for measuring or checking the pressure of liquids or gases, excluding instruments and apparatus of heading Nos. 9014, 9015, 9028 or 9032                      |

|        |  |
|--------|--|
| 902710 | Instruments and apparatus for physical or chemical analysis, gas or smoke analysis apparatus   |
| 902730 | Spectrometers, spectrophotometers and spectrographs using optical radiations (UV, visible, IR)   |
| 902740 | Instruments and apparatus for measuring or checking quantities of heat, sound or light, exposure meters  |
| 902750 | Other instruments and apparatus using optical radiations (UV, visible, IR)   |
| 902780 | Other instruments and apparatus for physical or chemical analysis  |
| 902810 | Gas meters   |
| 902820 | Liquid meters  |
| 902830 | Electricity meters   |
| 902890 | Parts for gas, liquid or electricity supply or production meters, including calibrating meters therefor  |
| 902910 | Revolution counters, production counters, taximeters, mileometers, pedometers and the like   |
| 902920 | Speed indicators and tachometers; stroboscopes   |
| 902990 | Parts and accessories for revolution counters, production counters, taximeters, mileometers, pedometers and the like; speed indicators and tachometers, other than those of heading No. 90.14 or 90.15; stroboscopes |
| 903010 | Instruments and apparatus for measuring or detecting ionising radiations   |
| 903020 | Cathode-ray oscilloscopes and cathode-ray oscillographs  |
| 903031 | Multimeters without a recording device   |
| 903039 | Other instruments and apparatus for measuring or checking voltage, current, etc. without a recording device  |
| 903040 | Other instruments and apparatus, specially designed for telecommunications (for example, cross-talk meters, gain measuring instruments, distortion factor meters, psophometers)                                      |
| 903082 | Other instruments for measuring or checking semiconductor wafers or devices  |
| 903083 | Other instruments for measuring or checking semiconductor wafers or devices with a recording device  |
| 903110 | Measuring or checking instruments, appliances and machines n.e.s., machines for balancing mechanical parts   |
| 903120 | Measuring or checking instruments, appliances and machines n.e.s., test benches  |
| 903130 | Measuring or checking instruments, appliances and machines n.e.s., profile projectors  |
| 903141 | Other optical instruments and appliances, for inspecting semiconductor wafers or devices or for inspecting photomasks or reticles used in manufacturing semiconductor devices  |
| 903180 | Other measuring or checking instruments, appliances and machines, n.e.s.   |
| 903190 | Parts and accessories for measuring or checking instruments, appliances and machines, n.e.s.   |
| 903210 | Thermostats  |
| 903220 | Manostats  |
| 903289 | Other automatic regulating or controlling instruments and apparatus, n.e.s.  |
| 903290 | Parts and accessories for automatic regulating or controlling instruments and apparatus  |



Table 2 - Definition of ICT products (Year 2008) (Based on CPC Ver2, ISIC Rev4)

| Computers and peripheral equipment |           |  |
|------------------------------------|-----------|--|
| ISIC Rev.4                         | CPC Ver.2 | Product description  |
| 2620                               | 45142     | Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network  |
|                                    | 45221     | Portable automatic data processing machines weighing not more than 10 kg, such as laptop and notebook computers  |
|                                    | 45222     | Personal digital assistants and similar computers  |
|                                    | 45230     | Automatic data processing machines, comprising in the same housing at least a central processing unit and an input and output unit, whether or not combined  |
|                                    | 45240     | Automatic data processing machines presented in the form of systems  |
|                                    | 45250     | Other automatic data processing machines whether or not containing in the same housing one or two of the following types of units: storage units, input units, output units                          |
|                                    | 45261     | Input peripherals (keyboard, joystick, mouse etc.)   |
|                                    | 45262     | Scanners (except combination of printer, scanner, copier and/or fax)   |
|                                    | 45263     | Inkjet printers used with data processing machines   |
|                                    | 45264     | Laser printers used with data processing machines  |
|                                    | 45265     | Other printers used with data processing machines  |
|                                    | 45266     | Units performing two or more of the following functions: printing, scanning, copying, faxing   |
|                                    | 45269     | Other input or output peripheral devices   |
|                                    | 45271     | Fixed media storage units  |
|                                    | 45272     | Removable media storage units  |
|                                    | 45289     | Other units of automatic data processing machines  |
|                                    | 45290     | Parts and accessories of computing machines  |
|                                    | 47550     | Solid-state non-volatile storage devices   |
| Communication equipment            |           |  |
| ISIC Rev.4                         | CPC Ver.2 | Product description  |
| 2630                               | 46921     | Burglar or fire alarms and similar apparatus   |
|                                    | 47211     | Transmission apparatus incorporating reception apparatus   |
|                                    | 47212     | Transmission apparatus not incorporating reception apparatus   |
|                                    | 47213     | Television cameras   |
|                                    | 47221     | Line telephone sets with cordless handsets   |
| 2610                               | 47222     | Telephones for cellular networks or for other wireless networks  |
| 2630                               | 47223     | Other telephone sets and apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area) |
|                                    | 47401     | Parts for the goods of subclass 47221 to 47223   |

| Consumer electronic equipment          |           |   |
|--|-----------|---|
| ISIC Rev.4                             | CPC Ver.2 | Product description   |
| 2640                                   | 38581     | Video game consoles   |
| 2630                                   | 47214     | Video camera recorders  |
| 2640                                   |           |   |
| 2670                                   | 47215     | Digital cameras   |
| 2640                                   | 47311     | Radio broadcast receivers (except of a kind used in motor vehicles), whether or not combined with sound recording or reproducing apparatus or a clock                         |
|  | 47312     | Radio broadcast receivers not capable of operating without an external source of power, of a kind used in motor vehicles  |
|  | 47313     | Television receivers, whether or not combined with radio-broadcast receivers or sound or video recording or reproducing apparatus   |
|  | 47314     | Monitors and projectors, not incorporating television reception apparatus and not principally used in an automatic data processing system                                     |
|  | 47315     | Monitors and projectors, principally used in an automatic data processing system  |
|  | 47321     | Sound recording or reproducing apparatus  |
|  | 47323     | Video recording or reproducing apparatus  |
|  | 47330     | Microphones and stands therefor; loudspeakers; headphones, earphones and combined microphone/speaker sets; audio-frequency electric amplifiers; electric sound amplifier sets |
|  | 47402     | Parts for the goods of subclasses 47321, 47323 and 47330  |
| Miscellaneous ICT components and goods |           |   |
| ISIC Rev.4                             | CPC Ver.2 | Product description   |
| 2610                                   | 45281     | Sound, video, network and similar cards for automatic data processing machines  |
|  | 47130     | Printed circuits  |
|  | 47140     | Thermionic, cold cathode or photo-cathode valves and tubes (including cathode ray tubes)  |
|  | 47150     | Diodes, transistors and similar semi-conductor devices; photosensitive semi-conductor devices; light emitting diodes; mounted piezo-electric crystals                         |
|  | 47160     | Electronic integrated circuits  |
|  | 47173     | Parts for the goods of subclasses 47140 to 47160  |
| 2630                                   | 47403     | Parts for the goods of subclasses 47211 to 47213, 47311 to 47315 and 48220  |
| 2640                                   |           |   |
| 2680                                   | 47530     | Magnetic media, not recorded, except cards with a magnetic stripe   |
|  | 47540     | Optical media, not recorded   |
| 3290                                   | 47590     | Other recording media, including matrices and masters for the production of disks   |
| 2220                                   | 47910     | Cards with a magnetic stripe  |
| 2620                                   | 47920     | "Smart cards"   |
| 2610                                   | 48315     | Liquid crystal devices n.e.c.; lasers, except laser diodes; other optical appliances and instruments n.e.c.   |
|  | 48354     | Parts and accessories for the goods of subclass 48315   |

| Manufacturing services for ICT equipment                  |           |   |
|---|-----------|---|
| ISIC Rev.4  | CPC Ver.2 | Product description   |
| 2610  | 88741     | Electronic component and board manufacturing services             |
| 2620  | 88742     | Computer and peripheral equipment manufacturing services          |
| 2630  | 88743     | Communication equipment manufacturing services                    |
| 2640  | 88744     | Consumer electronics manufacturing services                       |
| 2680  | 88749     | Magnetic and optical media manufacturing services                 |
| Business and productivity software and licensing services |           |   |
| ISIC Rev.4  | CPC Ver.2 | Product description   |
| 5820  | 47811     | Operating systems, packaged                                       |
|   | 47812     | Network software, packaged  |
|   | 47813     | Database management software, packaged                            |
|   | 47814     | Development tools and programming languages software, packaged    |
|   | 47821     | General business productivity and home use applications, packaged |
|   | 47829     | Other application software, packaged                              |
|   | 73311     | Licensing services for the right to use computer software         |
|   | 83143     | Software originals  |
|   | 84341     | System software downloads   |
|   | 84342     | Application software downloads                                    |
|   | 84392     | On-line software  |
| Information technology consultancy and services           |           |   |
| ISIC Rev.4  | CPC Ver.2 | Product description   |
| 7020  | 83117     | Business process management services                              |
| 6202  | 83131     | IT technical consulting services                                  |
|   | 83132     | IT technical support services                                     |
| 6201  | 83141     | IT design and development services for applications               |
| 6202  | 83142     | IT design and development services for networks and systems       |
| 6311  | 83151     | Website hosting services  |
|   | 83152     | Application service provisioning                                  |
|   | 83159     | Other hosting and IT infrastructure provisioning services         |
| 6202  | 83161     | Network management services                                       |
|   | 83162     | Computer systems management services                              |

| Telecommunications services                  |           |   |
|--|-----------|---|
| ISIC Rev.4                                   | CPC Ver.2 | Product description   |
| 6110   | 84110     | Carrier services  |
| 6120   |           |   |
| 6130   |           |   |
| 6110   | 84121     | Fixed telephony services . access and use   |
|  | 84122     | Fixed telephony services . calling features   |
|  | 84131     | Mobile telecommunications services . access and use   |
| 6120   | 84132     | Mobile telecommunications services . calling features   |
| 6110   | 84140     | Private network services  |
| 6120   |           |   |
| 6130   |           |   |
| 6110   | 84150     | Data transmission services  |
| 6120   |           |   |
| 6130   |           |   |
| 6190   | 84190     | Other telecommunications services   |
| 6110   | 84210     | Internet backbone services  |
| 6110   | 84221     | Narrow-band Internet access services  |
| 6120   |           |   |
| 6130   |           |   |
| 6190   | 84222     | Broad-band Internet access services   |
| 6110   |           |   |
| 6120   |           |   |
| 6130   | 84290     | Other Internet telecommunications services  |
| 6190   |           |   |
| 6190   |           |   |
| Leasing or rental services for ICT equipment |           |   |
| ISIC Rev.4                                   | CPC Ver.2 | Product description   |
| 7730   | 73124     | Leasing or rental services concerning computers without operator  |
|  | 73125     | Leasing or rental services concerning telecommunications equipment without operator                                       |
| 7729   | 73210     | Leasing or rental services concerning televisions, radios, video cassette recorders and related equipment and accessories |

| Other ICT services |           |   |
|--------------------|-----------|---|
| ISIC Rev.4         | CPC Ver.2 | Product description   |
| 7110               | 83325     | Engineering services for telecommunications and broadcasting projects                 |
| 9511               | 87130     | Maintenance and repair services of computers and peripheral equipment                 |
| 9512               | 87153     | Maintenance and repair services of telecommunication equipment and apparatus          |
| 3320               | 87331     | Installation services of mainframe computers  |
| 6209               | 87332     | Installation services of personal computers and peripheral equipment                  |
| 3320               | 87340     | Installation services of radio, television and communications equipment and apparatus |

\* The codes and titles presented are based on the CPC (Ver.2) for December 2008. In case of future changes to this version, the ISIC official final codes, titles and links ISIC will prevail.

Table 3: Definition of Content and Information Media Products (Year 2008) (Based on CPC Ver2, ISIC Rev4)

| Forms and other text-based content on physical media, and related services |           |   |
|--|-----------|---|
| ISIC Rev4  | CPC Rev 2 | Content and media products  |
| 5811   | 32210     | Educational textbooks, in print   |
|  | 32220     | General reference books, in print   |
| 5812   | 32230     | Directories, in print   |
| 5811   | 32291     | Professional, technical and scholarly books, in print   |
|  | 32292     | Children.s books, in print  |
|  | 32299     | Other books n.e.c., in print  |
| 5813   | 32300     | Newspapers and periodicals, daily, in print   |
|  | 32410     | General interest newspapers and periodicals, other than daily, in print   |
|  | 32420     | Business, professional or academic newspapers and periodicals, other than daily, in print                                       |
|  | 32490     | Other newspapers and periodicals, other than daily, in print  |
| 5811   | 32510     | Maps and hydrographic or similar charts (including wall maps, topographical plans and globes), printed, other than in book-form |
| 5819   | 32530     | Printed or illustrated postcards; printed cards bearing personal greetings or messages, with or without envelopes or trimmings  |
|  | 32540     | Printed pictures, designs and photographs   |
|  | 32620     | Trade advertising material, commercial catalogues and the like  |
|  | 32630     | Transfers (decalcomanias) and printed calendars   |
|  | 32690     | Other printed matter  |
| 5811   | 47691     | Audio books on disk, tape or other physical media   |
| 5811   |           |   |
| 5812   |           |   |
| 5813   | 47692     | Text-based disks, tapes or other physical media   |
| 5920   | 47699     | Other non-musical audio disks and tapes   |
| 5812   |           |   |
| 5813   |           |   |
| 5819   | 83631     | Sale of advertising space in print media (except on commission)   |

| Motion picture, video, television and radio content, and related services |           |  |
|---|-----------|--|
| ISIC Rev4   | CPC Rev 2 | Content and media products   |
| 5911  |           | Motion picture film, exposed and developed, whether or not             |
| 5912  | 38950     | incorporating sound track or consisting only of sound track            |
| 5911  | 47620     | Films and other video content on disks, tape or other physical media   |
| 6010  |           |  |
| 6020  | 83632     | Sale of TV/radio advertising time (except on commission)               |
| 6010  | 84611     | Radio broadcast originals  |
| 6020  | 84612     | Television broadcast originals   |
| 6010  | 84621     | Radio channel programmes   |
| 6020  | 84622     | Television channel programmes  |
| 6010  |           |  |
| 6020  | 84631     | Broadcasting services  |
| 6110  |           |  |
| 6120  |           |  |
| 6130  | 84632     | Home programme distribution services, basic programming package        |
| 6110  |           |  |
| 6120  |           |  |
| 6130  | 84633     | Home programme distribution services, discretionary programming pack   |
| 6110  |           |  |
| 6120  |           |  |
| 6130  | 84634     | Home programme distribution services, pay-per-view                     |
| 5911  |           | Motion picture, videotape and television programme production          |
| 6020  | 96121     | services   |
| 6010  | 96122     | Radio programme production services                                    |
| 5911  | 96123     | Motion picture, videotape, television and radio programme originals    |
|   | 96131     | Audio-visual editing services  |
|   | 96132     | Transfers and duplication of masters services                          |
|   | 96133     | Colour correction and digital restoration services                     |
|   | 96134     | Visual effects services  |
|   | 96135     | Animation services   |
|   | 96136     | Captioning, titling and subtitling services                            |
|   | 96137     | Sound editing and design services                                      |
| 5912  | 96139     | Other post-production services   |
| 5913  |           | Motion picture, videotape, television and radio programme distribution |
| 6010  | 96140     | services   |
| 5914  | 96150     | Motion picture projection services                                     |
| Music content and related services  |           |  |
| ISIC Rev4   | CPC Rev 2 | Content and media products   |
|   | 32520     | Music, printed or in manuscript  |
|   | 47610     | Musical audio disks, tapes or other physical media                     |
|   | 96111     | Sound recording services   |
|   | 96112     | Live recording services  |
| 5920  | 96113     | Sound recording originals  |

| Games software                       |           |  |
|--------------------------------------|-----------|--|
| ISIC Rev4                            | CPC Rev 2 | Content and media products   |
| 5820                                 | 38582     | Software for video game consoles   |
|                                      | 47822     | Computer game software, packaged   |
|                                      | 84391     | On-line games  |
| On-line content and related services |           |  |
| ISIC Rev4                            | CPC Rev 2 | Content and media products   |
| 5812                                 | 73312     | Licensing services for the right to use databases  |
| 5813                                 | 83633     | Sale of Internet advertising space (except on commission)  |
| 5819                                 |           |  |
| 6311                                 |           |  |
| 6312                                 |           |  |
| 5811                                 | 84311     | On-line books  |
| 5813                                 | 84312     | On-line newspapers and periodicals   |
| 5812                                 | 84313     | On-line directories and mailing lists  |
| 5920                                 | 84321     | Musical audio downloads  |
|                                      | 84322     | Streamed audio content   |
|                                      | 84331     | Films and other video downloads  |
| 5911                                 | 84332     | Streamed video content   |
| 5819                                 | 84393     | On-line adult content  |
| 6312                                 | 84394     | Web search portal content  |
| 5819                                 | 84399     | Other on-line content n.e.c.   |
| Other content and related services   |           |  |
| ISIC Rev4                            | CPC Rev 2 | Content and media products   |
| 5811                                 | 73320     | Licensing services for the right to use entertainment, literary or artistic originals                    |
| 5920                                 |           |  |
| 5913                                 |           |  |
| 7310                                 | 83611     | Full service advertising   |
|                                      | 83620     | Purchase or sale of advertising space or time, on commission   |
| 5911                                 | 83639     | Sale of other advertising space or time (except on commission)   |
| 7420                                 | 83812     | Advertising and related photography services   |
| 5812                                 | 83940     | Original compilations of facts/information   |
| 6391                                 | 84410     | News agency services to newspapers and periodicals   |
|                                      | 84420     | News agency services to audio-visual media   |
|                                      |           |  |
| 6399                                 | 85991     | Other information services   |
| 58                                   | 89110     | Publishing, on a fee or contract basis   |
| 9000                                 | 96330     | Original works of authors, composers and other artists except performing artists, painters and Sculptors |

The codes and titles presented are based on the CPC for 2008. In case of future changes to this version, the official final titles will prevail. Although it is unlikely that the codes of the ISIC Ver4 will be amended, it is possible that one of the correspondences presented will be amended in the future.