

## Chapter 7

# Content and Media

*This chapter describes statistical issues relating to information and electronic content and more recent work on the definition of content and media sector and its products.*

## Introduction

The introduction to this *Guide* states that “we live in a period of unprecedented technological change, both in terms of the extent and speed of change (...) Many of the underlying transformations are undoubtedly associated with the set of interrelated and, more recently, converging technologies that have come to be known as ICT.”

In an attempt to describe and understand the magnitude of these changes, considerable effort has been made to measure the supply and use of ICT. However, relatively little is known statistically about the many developments that result from the flow of information, or so-called “content”, which is enabled by ICT.

Yet those developments are increasingly significant. For instance, business models are being re-invented, particularly in industries whose output is information in one form or another (for instance, news, music, film, scientific information and business information) and industries whose processes rely heavily on information processing and exchange (financial services and education, for example).

A range of industrial, labour, trade, cultural and intellectual property policy issues are emerging as a result of better communications and information exchanges. These policy issues are often embodied in the somewhat vague notions of digital content and digital delivery.

The first challenge for the statistical system is to develop the definitions and measurement models necessary to describe the extent of those changes and so inform the relevant policy debates. It is clear that the many issues at stake cannot be addressed with a single measurement model. It is also clear that existing industry, product and demand-based models have limits.

This chapter outlines conceptual work done on the topic by the WPIIS and describes current measurement approaches by the WPIIS and ICCP.

Because the topic is complex, terminology is an important aid to understanding. A note on terms used is therefore likely to be helpful. For the purposes of this *Guide*, the terms commonly used in discussing the topic have meanings as follows:

- The “content and media sector” consists of industries that are engaged in the production, publishing and/or the electronic distribution of content products (OECD, 2006a).<sup>1</sup>
- “Content and media products” are mainly produced by businesses that are classified to the industries that comprise the “content and media sector”. However, some content and media products will be produced by businesses outside the sector and by other sectors of the economy, including government, as secondary activities.
- The “electronic content sector” (or “digital content sector”) consists of industries that primarily produce “electronic content products” (or “digital content products”). For most firms and most industries, electronic content products are still a minor output. This view is reflected in the structure of ISIC Rev. 4, which does not separately identify electronic content activities (industries).

- The terms “digitised product” and “digital delivery” are linked. A digitised product has been defined as a product that can be delivered on line.

It is clear from the discussion above that there is an industry view of content and a product view. Analogous to the approach taken with the ICT sector and ICT products, classifications are needed to describe content industries and products. Also as with ICT, such classifications would preferably be based on existing classifications such as the ISIC and the CPC.

Revisions made to this chapter in 2009 mainly reflect the development of a “Content and media sector” definition by WPIIS (OECD, 2006b) and a “Content and media products” classification (OECD, 2008).

### The Content and media sector definition

In 2006, WPIIS started work on revisions to the ICT sector and ICT product definitions to conform with to the revised ISIC (Rev. 4) and CPC (Ver. 2). At the same time, the Working Party started developing a definition of a “content and media” sector based on the premise that “Content and media industries are engaged in the production, publishing and/or the electronic distribution of content products” (OECD, 2006a).<sup>2</sup> The Working Party agreed that the sector would consist of industries of Division J of ISIC (Information and communication) except for those that are already included in the ICT sector definition.

A history of WPIIS deliberations on the “content” sector can be found in Annex 7.A1 – as can the definition of the agreed Content and media sector (released in 2007).

### The Content and media product classification

Following agreement on a Content and media sector, the development of a product classification became possible. The work was undertaken by the WPIIS Classifications Expert Group and the following guiding principle was used to identify Content and media products (it was adapted from the definition used to determine the Content and media sector):

“Content corresponds to an organised message intended for human beings published in mass communication media and related media activities. The value of such a product to the consumer does not lie in its tangible qualities but in its information, educational, cultural or entertainment content.”

The main features of the Content and media product classification, in terms of its relationship with both the sectoral definition and the ICT product classification, can be summarised as follows (OECD, 2008):

- all of the products of the Content and media sector are included in the product classification;
- four products of the ICT sector are included in the Content and media products list. They are the three games software products and *Web search portal content*; and
- four products that are not products of the Content and media (nor ICT) sector are included in the classification based on majority support from the expert group and consistency arguments (see Annex 2.A1 for details).

The list was agreed<sup>3</sup> at the end of 2008 (and slightly revised in January 2009 following further minor changes to the CPC at the end of 2008). There are 74 Content and media products in the list and six broad level categories as shown in Table 7.1 below. The detailed list can be found in Annex 2.A1.

Table 7.1. **Broad level categories for content and media products**

| Broad level categories   | Number of CPC subclasses (products) |
|--|-------------------------------------|
| Printed and other text-based content on physical media, and related services | 18                                  |
| Motion picture, video, television and radio content, and related services    | 24                                  |
| Music content and related services   | 5                                   |
| Games software   | 3                                   |
| On-line content and related services   | 12                                  |
| Other content and related services   | 12                                  |
| <b>Total</b>   | <b>74</b>                           |

## Digitised products

In 2005, the OECD distinguished digitised products and broadly defined them in an attempt to develop demand-side questions on their use, sale and purchase.

According to this definition, digitised products include both:

- products (such as reports, movies, music and software) which can be delivered over the Internet in digitised form and have a physical analogue (such as a CD or DVD). For such products, the analogy with the physically delivered product is direct (*e.g.* a downloaded movie file and a DVD of that movie, an MP3 file and a CD); and
- other digitised products where the analogy with a physical product is less direct, for instance, new kinds of web-based products that are accessed on line. They include online news, information or financial services and online games (where the nature of the game is different from other computer or video games because of the networking capacity of the Internet).

While a variety of services can be digitally delivered and are therefore included above, others may be ordered over the Internet but largely delivered or provided off line. Examples of such transactions include buying insurance through an Internet broker, reserving a hotel room through a hotel chain's web-based reservation system, booking plane tickets through an airline's website and ordering concert tickets from an online seller.

### **Modifications to the OECD model survey on ICT use by businesses**

A new question on the nature of products sold over the Internet was added to the 2005 model questionnaire (see Annex 5.A1, Question 12). The question distinguishes:

- physical products – those ordered on line and delivered off line. They include raw materials, components, stationery, hardware, books and CD-ROMs;
- digitised products – are **either** delivered over the Internet in digitised form, replacing physical products *e.g.* reports, software (in lieu of paper or CD versions) or are new kinds of web products which are accessed on line and substitute for physical products, *e.g.* online financial and information services; and
- offline services – are ordered on line but are delivered, or substantially delivered, off line. They include bookings for accommodation, travel and events.

### **Modifications to the OECD model survey of ICT access and use by households and individuals**

In order to obtain measures of demand for digitised products, extra categories on Internet activities and products purchased over the Internet were added to the relevant questions in the 2005 model questionnaire. The new Internet activity items include extra

categories enabling the identification of digitised products that also exist in physical form (for instance, movies or music). New items included for purchased products distinguish the product in digital and physical form. For instance, computer software is split into computer software that is physically delivered (e.g. as a CD) and computer software that is digitally delivered (downloaded from the Internet). A significant advantage of including questions in the model survey is that information on activities and purchases can be broken down by characteristics of the individuals concerned, for instance, by their age, gender and education level.

### A sectoral study approach to measuring digital content

It is clear that digital content – and digital delivery of content – are increasing in significance, driven by enhanced technological capabilities, a rapid uptake of broadband technologies and improved performance of hardware and software. Digital content and associated applications offer new business opportunities and potentially improved access to knowledge and research. Digital content can also be a major driver of ICT industries such as telecommunications.

The OECD's Committee for Information, Computer and Communications Policy (ICCP) has been looking at digital content issues in the emergence of new network-based services since 1996.<sup>4</sup> More recently, their focus has shifted to work on broadband content and digital delivery of goods and services (OECD, 2004).

At its March 2003 meeting, the ICCP Committee held discussions on interlinked broadband and digital content developments and policy issues. The Committee adopted two tracks for this work, agreeing to work towards a Committee statement on promoting broadband development and to develop a work proposal on digital content. At its October 2003 meeting, it was agreed that the ICCP Committee should undertake more comprehensive analysis on digital content, focusing on growth and value creation, drivers and barriers to growth, and changing market structures and emerging issues.

In early 2004, following its preparation in the ICCP Committee, the OECD adopted the *Recommendation of the Council on Broadband Development* (see Box 7.2 below), setting out ten recommendations for OECD member countries when establishing or reviewing their broadband policies. These policy recommendations recognise the increased policy attention towards broadband content and applications. The ICCP Committee has been asked to monitor the development of broadband in the context of this Recommendation – this process took place during 2007 and 2008.

At its April 2004 meeting, the ICCP Committee agreed to the work plan on digital broadband content, with this work being undertaken in the Working Party on the Information Economy (WPIE). The WPIE has completed an initial set of stocktaking studies of the following sectors where digital content is transforming business models: scientific publishing, music, online computer and video games, mobile content services and user-created content. Work is ongoing on film and video, online advertising and news distribution. The studies were designed to further identify analytical, policy and measurement issues, and to prepare the ground for more in-depth analysis of horizontal issues and challenges to broadband content development and applications. A major OECD international conference on the Future Digital Economy: Digital Content Creation, Distribution and Access was held on 30-31 January 2006 in Rome.<sup>5</sup>

At the request of the WPIE, a content policy framework was developed in 2006. Business and public policy issues to be addressed are grouped in six areas as outlined in Box 7.1 below.

**Box 7.1. Digital content policy framework**

- i) innovation and technology (*e.g.* enhancing R&D and innovation in content, networks, software and new technologies);
- ii) value chain and business model issues (*e.g.* developing a competitive, non-discriminatory business environment);
- iii) enhancing the infrastructure (*e.g.* technology for digital content delivery, standards and interoperability);
- iv) business and regulatory environments that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights and digital rights management without disadvantaging innovative e-business models;
- v) governments as producers and users of content (*e.g.* commercial re-use and pricing of public sector information); and
- vi) conceptualisation, classification and measurement issues.

Source: OECD "Digital Broadband Content Strategies and Policies", [www.oecd.org/dataoecd/54/36/36854975.pdf](http://www.oecd.org/dataoecd/54/36/36854975.pdf).

In 2006, the WPIE agreed that the existing digital content policy framework could be further developed in key areas of importance for the development, distribution and use of digital content.

In parallel, the OECD is working on increasing access to public sector information (*e.g.* geographical and meteorological data, information held in libraries, archives, museums). The public sector is a large producer of content with major potential for digitisation and new commercial and non-commercial applications. Wider availability and use of public sector information and content can arguably contribute to economic growth and enhanced citizen welfare. A study has been completed on access to public sector content (including the commercial re-use of public sector information). Follow up work includes refinement of the analysis, and potentially the development of international principles and guidelines.

For more information on this work, see: [www.oecd.org/sti/digitalcontent](http://www.oecd.org/sti/digitalcontent) for the work on digital content and [www.oecd.org/FutureInternet](http://www.oecd.org/FutureInternet) for the 2008 Ministerial on "The Future of the Internet Economy".

**Box 7.2. OECD Recommendation of the Council on Broadband Development, 2004**

The OECD Council recommends that, in establishing or reviewing their policies to assist the development of broadband markets, promote efficient and innovative supply arrangements and encourage effective use of broadband services, Member countries should implement:

- Effective competition and continued liberalisation in infrastructure, network services and applications in the face of convergence across different technological platforms that supply broadband services and maintain transparent, non-discriminatory market policies.
- Policies that encourage investment in new technological infrastructure, content and applications in order to ensure wide take-up.
- Technologically neutral policy and regulation among competing and developing technologies to encourage interoperability, innovation and expand choice, taking into consideration that convergence of platforms and services requires the reassessment and consistency of regulatory frameworks.
- Recognition of the primary role of the private sector in the expansion of coverage and the use of broadband, with complementary government initiatives that take care not to distort the market.
- A culture of security to enhance trust in the use of ICT by business and consumers, effective enforcement of privacy and consumer protection, and more generally, strengthened cross-border co-operation between all stakeholders to reach these goals.
- Both supply-based approaches to encourage infrastructure, content, and service provision and demand-based approaches, such as demand aggregation in sparsely populated areas, as a virtuous cycle to promote take-up and effective use of broadband services.
- Policies that promote access on fair terms and at competitive prices to all communities, irrespective of location, in order to realise the full benefits of broadband services.
- Assessment of the market-driven availability and diffusion of broadband services in order to determine whether government initiatives are appropriate and how they should be structured.
- Regulatory frameworks that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights, and digital rights management without disadvantaging innovative e-business models.
- Encouragement of research and development in the field of ICT for the development of broadband and enhancement of its economic, social and cultural effectiveness.

The Council also instructs the Committee for Information, Computer and Communications Policy to monitor the development of broadband in the context of this Recommendation within three years of its adoption and regularly thereafter.

Source: OECD, *Recommendation of the Council on Broadband Development*, C(2003)259/FINAL, [www.oecd.org/dataoecd/31/38/29892925.pdf](http://www.oecd.org/dataoecd/31/38/29892925.pdf).

### Notes

1. From 2006, the sector was called the “content and media sector” but references earlier than that are referred to as “content” in this chapter.
2. The development work was undertaken by the WPIIS Classifications Expert Group (established to make recommendations on information economy classifications to the broader membership).
3. Declassified by the WPIIS parent committee, the Committee for Information, Computer and Communications Policy (ICCP).
4. See OECD (1998) and (1999).
5. See [www.oecd.org/sti/digitalcontent/conference](http://www.oecd.org/sti/digitalcontent/conference).

### References

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## ANNEX 7.A1

# OECD Definitions of the Information Economy Sectors

### Introduction

This annex is based on summary records of, and papers presented to, the WPIIS and its predecessor, the *Ad hoc* Meeting on Indicators for the Information Society (under the aegis of the ICCP Statistical Panel). The annex firstly provides a brief history of OECD and member country work on the ICT sector definition including: deliberations leading to its agreement, the original (1998), revised (2002) and current (2007) definitions of the sector and some practical notes on data collection. Secondly, it provides a discussion of deliberations on a “content” sector, leading to agreement on a definition of a Content and media sector in 2007.

Importantly, the information economy sector includes the industries in both the ICT and the Content and media sectors.

The United Nation Statistics Division (UNSD) agreed to integrate the OECD’s information economy sector definitions into the 2007 ISIC as an alternative aggregate. This presented an opportunity to encourage the use of these standards outside the boundaries of the OECD, a goal supported by the Committee for Information, Computer and Communication Policy (ICCP) and in line with the outreach strategy embraced at the World Summits on the Information Society (2003 and 2005).

### The ICT sector definition

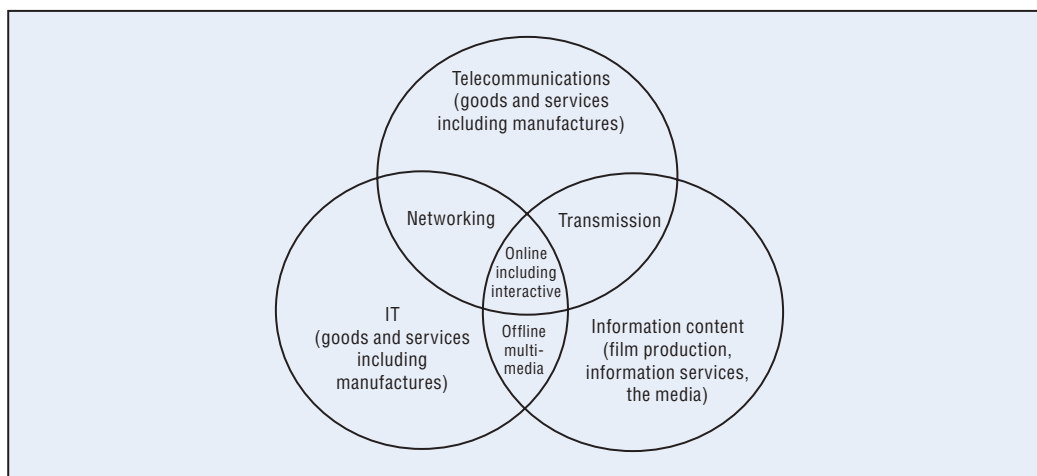
#### History

While a definition of the ICT sector had been considered by the OECD before 1997, we start this history with the first meeting of the precursor to the WPIIS in 1997. The *ad hoc* Meeting on Indicators for the Information Society took place in June 1997, with a major agenda item being consideration of a definition for the ICT sector. A paper on the topic was presented by Canada who informed the meeting of the definition adopted by Canada, based on the Standard Industrial Classification (SIC). The classification consisted of relevant industry classes in *Manufacturing* and *Services*.

The reaction of the meeting was positive, especially in relation to the manufacturing industries in the definition. In relation to services, there was some debate over whether the definition should be expanded to include electronic content producing industries.

Measurement of the ICT sector was again a major focus for the 1998 *ad hoc* Meeting on Indicators for the Information Society. A paper from Australia proposed a definition of the ICT sector and explored issues such as specialisation ratio (the proportion of businesses in an industry that have ICT activity), the fact that ICT products will also be produced by enterprises that are not classified to ICT sector industries, and the overlap of the ICT sector with content industries. This was illustrated by the figure reproduced below.

Figure 7.A1.1. **Overlap between the information technology, telecommunications and information content activities of firms (adapted from a Finnish model)**



Source : OECD, DSTI/EAS.

In referring to Figure 7.A1.1, the paper proposed that “Conceptually ... the ICT sector can be viewed as the activities which fall into the union of the Information Technology and Telecommunications activities in the diagram above. It includes therefore the intersections between them and the Information Content activities. However it excludes those Information Content activities which fall outside those intersections; that is, those which have no direct ICT association.”

The Australian paper proposed a set of information industries that could be included by countries wishing to incorporate content-producing industries. The paper also proposed part industries for inclusion in the ICT sector.

Following discussion of this paper plus other contributions from Australia, the Nordic countries and the European Commission’s Task Force on Information Society Statistics, the meeting agreed “to pursue a two-stage approach to developing an industry definition. In the first phase the focus would be on industries and then, in the second phase, a product-based definition would be used to further refine the industry definition at a later date. It was also agreed that to reach agreement a pragmatic, step-by-step approach would need to be adopted where initially an industry definition for ICT would be pursued and then, once achieved, a broader definition of the “information economy” would be developed that included not only ICT but also content industries.” In relation to the inclusion of part classes, it was decided, for pragmatic reasons, that “no parts of classes would be included in the definition.” In respect of guiding principles that describe ICT industries, principles proposed by the United Kingdom were discussed and modified.

Agreement was fairly readily reached on inclusion of the following ISIC Rev. 3 industries:

- 30 Manufacture of office, accounting and computing machinery.
- 32 Manufacture of radio, television and communication equipment and apparatus.
- 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.
- 6420 Telecommunications.
- 7123 Renting of office machinery and equipment (including computers); and
- 72 Computer and related activities.

Other industries attracted more debate as follows:

- ISIC 3130 *Manufacture of insulated wire and cable* was questioned because of its inclusion of transmission cable for electric power. However, because of the perceived growing importance of optic fibre cables, it was agreed to include this industry with the understanding that there would have to be a footnote on historical time series alerting users that because of technological change and the advent of optic fibres the nature of this industry had changed significantly over time.
- After a lengthy discussion, it was agreed to exclude ISIC 9213 *Radio and Television Activities*. However, where transmission of radio and television programmes was done as part of the work of a business classified to ISIC 9213, the transmission activities would be included. In those cases, it should be included with a footnote attached to 6420 indicating that the activity of this industry is classified to 9213.
- It was agreed that the definition of the ICT sector would not include content industries but that future work would focus on industries that would be added to an industry definition of ICT to form a definition for the information economy.
- In the case of ISIC 5150 *Wholesale of machinery, equipment and supplies*, ISIC Rev. 3 does not have sufficient subcategories to allow a differentiation between ICT equipment wholesaling and the wholesaling of other equipment (e.g. industrial machinery). To avoid this problem, delegates agreed to include 5150 but to report data only for the relevant ICT wholesaling activity by using more detailed national classifications (e.g. NACE 5143, 5164 and 5165). The more narrow national classifications used would be noted in a footnote.
- In relation to retailing, because very few retailers exclusively sell ICT products, it was agreed to postpone the inclusion of 5233 *Retail sale of household appliances, articles and equipment* until a goods definition was available.

### **An agreed definition (1998)**

With the conclusion of the discussion at the 1998 *Ad hoc* Meeting on Indicators for the Information Society, an industry definition of ICT was established as shown in Box 7.A1.1 below. The definition was subsequently agreed and declassified by the parent body, the ICCP Committee.

**Box 7.A1.1. Agreed definition of the ICT sector, 1998  
(based on ISIC Rev. 3)**

The list of industries below was approved by delegates attending the Second Ad Hoc Meeting of Indicators for the Information Society under the aegis of the ICCP Statistical Panel.

The definition is a compromise, limited to those industries which facilitate, by electronic means, the processing, transmission and display of information, and it excludes the industries which create the information, the so-called “content” industries. The definition permits the immediate gathering of statistics for international comparison in an area of considerable policy importance because of deregulation and technological change. The statistics and their comparison will contribute to the work of the next stage of the Panel which is the development of a similar list of content industries and a classification of products which belong to the information and communication technology (ICT) sector.

On the basis of this decision, it was further decided that the definition being proposed would not include any “parts” of industries but would rather include the entire industry even though in some cases the latter might not be strictly an ICT activity. Exceptions to this general rule, could be considered whenever it was felt, by the majority of countries, that the complete exclusion of an industry would mean the exclusion of a significant number of businesses which are producing ICT goods and services. A set of principles was adopted that would provide a conceptual basis to the selection of industries chosen as “ICT”.

For manufacturing industries, the products of a candidate industry must: be intended to fulfil the function of information processing and communication, including transmission and display; or use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process. Components primarily intended for use in such products are also included.

For service industries, the products of a candidate industry must be intended to enable the function of information processing and communication by electronic means.

In the view of the members of the Panel, the “information economy” consists of the economic activities of those industries that produce content, and of the ICT industries that move and display the content. These economic activities include the use of information and of ICT products by both people and business. The “information society” includes the social impact of the information economy. These “working definitions” were seen as a means to promote discussion of the definitions of the constituent parts and of their boundaries. They could not be seen as final until agreement had been reached on the parts. The next steps in building indicators for the information society is agreement on a definition of the content industries which, when added to the ICT definition, will provide a working definition of the information economy. At the same time, the Panel will develop a classification of ICT products which will permit the gathering of statistics on the ICT output of industries not included in the definition.

The proposed definition of ICT includes the following ISIC Rev. 3 industries:

**Manufacturing**

- 3000 Manufacture of office, accounting and computing machinery
- 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 line telephony and line telegraphy

**Box 7.A1.1. Agreed definition of the ICT sector, 1998  
(based on ISIC Rev. 3) (cont.)**

|      |  |
|------|--|
| 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  |

**Services – goods related**

|      |   |
|------|---|
| 5150 | Wholesale of machinery, equipment and supplies <sup>1</sup>     |
| 7123 | Renting of office machinery and equipment (including computers) |

**Services – intangible**

|      |                                 |
|------|---------------------------------|
| 6420 | Telecommunications <sup>2</sup> |
| 7200 | Computer and related activities |

1. Countries were asked to include only those sub-sectors that directly provide ICT wholesaling services.
2. Where countries include telecommunication activities as part of radio and television activities (ISIC 9213), radio and television activities (9213) should be included in this definition.

### **A revised definition (2002)**

Review papers were presented to the 2001 and 2002 meetings of the WPIIS. The 2002 paper was very detailed and built on findings reported in the 2001 paper.

The 2002 paper considered country experiences on specialisation ratios for industries in the ICT sector. Industries found to have low ratios were: *Renting of office machinery and equipment (including computers)*, *Manufacture of insulated wire and cable* and *Manufacture of industrial process control equipment*. However, a sensitivity analysis of indicators of the two ICT manufacturing industries showed that the inclusion or the exclusion of those classes from the definition does not make a large difference.

The 2002 meeting discussed revisions to the definition but agreed only to a refinement of ICT wholesaling that became possible because of changes in the 2002 revision of ISIC (to Rev. 3.1). The split followed the acceptance of an OECD Secretariat proposal put to the United Nations Technical Subgroup (TSG) of the Expert Group on Economic and Social Classifications and resulted in three classifications replacing the old class 5150. Two of those new classifications defined the wholesaling of ICT products, as follows:

- ISIC 5151 Wholesale of computers, computer peripheral equipment and software.
- ISIC 5152 Wholesale of electronic and telecommunications parts and equipment.

Following the changes to wholesale described above, the definition changed as shown below.

### **A complete revision (2006-07)<sup>1</sup>**

The year 2006 was an opportune time for a review of the ICT sector. Not only were ICT product classifications agreed (goods in 2003 and services in 2006), but the 2007 revision of the ISIC (to Rev. 4) was effectively completed by March 2006, when the structures were approved by the United Nations Statistical Commission (UNSC).

The OECD was an active participant in the ISIC revision process and the revised classification incorporated improvements to ICT industry classes.

**Box 7.A1.3. The 2002 OECD ICT sector definition  
(based on ISIC Rev. 3.1)**

**ICT Manufacturing**

- 3000 Manufacture of office, accounting and computing machinery
- 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 line telephony 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

**ICT Services**

- 5151 Wholesale of computers, computer peripheral equipment and software
- 5152 Wholesale of electronic and telecommunications parts and equipment
- 6420 Telecommunications
- 7123 Renting of office machinery and equipment (including computers)
- 72 Computer and related activities

Proposals for the revision of the ICT sector definition (and for a new “content and media” sector definition) were presented to the May 2006 meeting of the WPIIS. While the Working Party was not in a position to finalise the proposals, it agreed on a process to fast track an outcome. Delegates were given a month to send in their suggestions and a group of volunteer experts was given the mandate to resolve any outstanding issues and finalise proposals.

The expert group was chaired by Canada and the members were: Australia, Denmark, Finland, France, New Zealand, South Korea, Switzerland, the United States and the OECD. In its deliberations, the group considered comments received from WPIIS delegates and Eurostat following the May 2006 meeting. Eurostat submitted its conclusion based on deliberations of its Working Group on ICT sector statistics and on a wide consultation of European countries. In total, 28 member countries provided input.

There was no immediate consensus on the list of industries that define the ICT sector. The delegations that replied directly to the OECD supported a narrower list of industries, but the proposed scope varied from one delegation to the next. The majority of European countries preferred a broader definition, but again the scope varied somewhat by country.

The debate concerned the suitability of the conceptual basis for the definition, the so-called guiding principles, and the interpretation of these principles.

In the case of goods producing industries, the most basic questions were:

- Should the scope of the definition be limited to industries producing products intended to fulfil the functions of information processing and communication or should the definition include industries producing products that use electronic processing to detect, measure, record or control a physical process?

- If a choice was made for the broader approach, how could the scope of the definition be justified given that more and more products incorporate technologies that use electronic processing?

In the case of services producing industries, the debate concerned the interpretation of the guideline more than the guideline itself. The existing guideline reads “The products of a candidate industry must be intended to enable the function of information processing and communication by electronic means”. The determination of what constitutes an “enabling” service or technology represented the main challenge.

In addition to conceptual issues, participants in the consultation process raised a number of pragmatic concerns including time series continuity, the clarity of messages to users, and the availability and confidentiality of relevant statistics.

WPIIS delegates, Eurostat and the UNSD all agreed to accept the conclusions of the expert group. Members of the expert group settled on an approach to choose among a number of options that emerged during the consultation phase.

#### *ICT manufacturing industries*

The starting point for the expert group’s discussion was the proposal presented to the 2006 WPIIS meeting and comments that followed. There was broad support for the inclusion of the following industries of ISIC Rev. 4:

| Group | Class | Title   |
|-------|-------|---|
| 261   | 2610  | Manufacture of electronic components*             |
| 262   | 2620  | Manufacture of computers and peripheral equipment |
| 263   | 2630  | Manufacture of communication equipment            |
| 264   | 2640  | Manufacture of consumer electronics               |
| 268   | 2680  | Manufacture of magnetic and optical media         |

\* In a later version of ISIC Rev. 4, the title changed to *Manufacture of electronic components and boards*.

... and the exclusion of the following industry:

|     |      |   |
|-----|------|---|
| 266 | 2660 | Manufacture of irradiation, electromedical and electrotherapeutic equipment |
|-----|------|---|

The most fundamental issue discussed was that of industry 2651 – Manufacture of measuring, testing, navigating and control equipment (see the discussion above). Similar industries<sup>2</sup> were included in the 2002 definition because they produce goods that “use electronic processing to detect, measure and/or record physical phenomena or to control a physical process”.

The debate centred on how to rationalise the inclusion of this industry while excluding others that also use electronic processing to perform some detection, recording or process control. A prevailing argument was that it would become increasingly difficult to distinguish industries that do so in a significant way from those that do so in an incidental way, given that ICTs are embedded into a growing number of products produced by a variety of industries.

The contrary view was that the exclusion of industry 2651 represented a significant departure from the existing definition, one that could be difficult to explain to users and that would change the message given by statistical indicators.

The expert group was ultimately swayed by the first argument and chose to exclude this industry from the definition. By doing so, it changed the guiding principle agreed to in 1998. The revised guiding principle excludes the second element and is:

“For manufacturing industries, the products of a candidate industry must primarily be intended to fulfil the function of information processing and communication by electronic means including transmission and display.”

In taking its decision, the expert group noted that ISIC Rev. 4 significantly restructured some of the industries of ISIC Rev. 3.1 (3312 and 3313 in particular) that are included in the ICT sector definition. The restructuring would make it very difficult to produce consistent time series when ISIC Rev. 4 is implemented. In that context, the argument for maintaining time series continuity is not as strong as it may appear. The group also noted that the narrower definition will lead to a clearer message, and therefore more useful analysis.

There was also a debate concerning the inclusion of ISIC 2731 – Manufacture of fibre optic cable. Those in favour of including this industry in the definition claimed that fibre optic cables are an integral part of telecommunication networks. Others argued that while cables do transport information in electronic format, they are passive components that do not fulfil any electronic processing of information. This functionality is made possible by network equipment. Furthermore, some participants expressed concern about the availability of statistics for this industry, and others about the existence of such an industry.

The case was presented that if a choice was made to include manufacturers of fibre optic cable in the ICT sector, it should also include manufacturers of other electronic and electric wires and cables (ISIC 2732) for two reasons: these products perform the same or a similar function and the producers of cable often produce more than one type.

The expert group accepted the arguments to exclude ISIC 2731 from the ICT sector definition.

#### *ICT repair industries*

The proposal submitted for discussion to the 2006 meeting included the following industries:

| Group | Class | Title  |
|-------|-------|--|
| 951   | 9511  | Repair of computers and peripheral equipment |
|       | 9512  | Repair of communication equipment            |
| 952   | 9521  | Repair of consumer electronics               |
| 331   | 3313  | Repair of electronic and optical equipment   |

There was broad support for the inclusion of relevant repair activities in the ICT sector. Repair is seen as an activity that enables the function of information processing and communication by electronic means. However, many expressed concerns about the availability of statistics for these industries, especially those subsumed within industry groups (3-digit categories). For that reason, there was more reluctance for the inclusion of



ISIC 9521 – Repair of consumer electronics (one of several industries within industry group 952 – Repair of personal and household goods). There was also little support for the inclusion of ISIC 3313 – Repair of electronic and optical equipment, especially given that optical equipment manufacturing is excluded from ICT manufacturing industries.

The options that emerged for the expert group to consider were:

- Option 1 – Industries 9511 and 9512.
- Option 2 – Industries outlined in option 1 plus 9521.

Although the repair of consumer electronics should logically be included in an ICT repair aggregate (consumer electronics manufacturing is included), the expert group noted the concern of many countries regarding data availability and chose Option 1, which excluded that industry from the ICT sector.

### *ICT trade industries*

The proposal submitted to the 2006 meeting included the following industries:

| Group | Class | Title  |
|-------|-------|--|
| 465   | 4651  | Wholesale of computers, computer peripheral equipment and software                             |
|       | 4652  | Wholesale of electronic and telecommunications equipment and parts                             |
|       | 4659  | Wholesale of other machinery and equipment   |
| 474   | 4741  | Retail sale of computers, peripheral units, software and telecomm. equipment in special stores |
|       | 4742  | Retail sale of audio and video equipment in specialized stores                                 |

There was broad support for the inclusion of relevant wholesale industries in the definition. The rationale for including ICT wholesale in the current definition is that organisations manufacturing ICTs in some OECD countries are often distributors of ICTs in other countries. The argument was that a business such as IBM should be included in the ICT sector in all countries, irrespective of the relative importance of its various ICT related activities (manufacturing, software development, IT infrastructure service or IT distribution services). This argument explains the continued support for the inclusion of wholesale activities. There was, however, little support for the inclusion of class 4659, which was seen as too broadly defined to be a useful component of the definition.

There is no similar argument for ICT retail industries, nor the same level of support for the inclusion of retail activities in the ICT sector. Those who argue for inclusion generally do so for the purpose of consistency. Those against inclusion tend to argue that specialty stores' low share of the total ICT retail market means that statistics are incomplete and therefore somewhat misleading.

The options that emerged for the expert group to consider were:

- Option 1 – Industries 4651 and 4652
- Option 2 – Industries outlined in option 1 plus 4741
- Option 3 – Industries outlined in option 2 plus 4742

The expert group accepted the arguments to exclude specialty retail activities from the ICT sector definition and chose the first option.

*ICT services industries*

The proposal submitted to the 2006 meeting included the following industries:

| Group | Class | Title   |
|-------|-------|---|
| 582   | 5820  | Software publishing   |
| 601   | 6010  | Radio broadcasting  |
| 602   | 6021  | Television broadcasting   |
|       | 6022  | Cable, satellite and other subscription programming   |
| 611   | 6110  | Wired telecommunications activities   |
| 612   | 6120  | Wireless telecommunications activities  |
| 613   | 6130  | Satellite telecommunications activities   |
| 619   | 6190  | Other telecommunications activities   |
| 620*  | 6201  | Computer programming activities   |
|       | 6202  | Information technology consultancy activities and computer facilities management activities |
|       | 6209  | Other information technology service activities   |
| 631   | 6311  | Data processing, hosting and related activities   |
|       | 6312  | Web portals   |

\* Some titles in this group changed in a later draft of ISIC Rev. 4.

The inclusion of telecommunications (Division 61), computer programming activities (industry group 620) and information service activities (industry Group 631) was not questioned. It was accepted that the products of those industries are intended to enable the function of information processing and communication by electronic means.

The discussion focused on software publishing and broadcasting industries, in particular whether these industries should be classified to the ICT services grouping or to a proposed Content and media sector.

On different occasions during the ISIC and CPC revision consultation processes, WPIIS and some national delegations made the point that software publishing (ISIC 5820) comprises at least two distinct components – the publishing of productivity software and the publishing of multimedia software. Ideally the publishing of multimedia software would be classified to the Content and media sector. This type of software is designed to inform, educate or entertain. It has more in common with other types of “content” products such as newspapers, television programmes, films or musical recordings. Productivity software on the other hand is designed to facilitate information processing and seems more appropriately classified with technology-centric services such as telecommunications or hosting services.

However, at this point in time, the option to make that distinction is not available because ISIC recognises only one software publishing industry that produces both types of software. Given this constraint, the expert group recommended the inclusion of this industry in ICT services.

The discussion on broadcasting was essentially about its defining characteristic. Broadcasting results from a set of activities including the development of channels and programming (scheduling, commissioning and production) and the transmission of those programs. Those activities are sometimes vertically integrated. The transmission aspect of broadcasting clearly enables the processing and communication of information, like other activities classified in the ICT services grouping. The development and programming aspects of broadcasting are of a very different nature and have more in common with those of other content industries such as publishing or film production.

The expert group and the majority of delegations were of the opinion that the development of channels and programming is the defining characteristic of establishments classified in ISIC Division 60, Programming and broadcasting activities. This Division was therefore assigned to the Content and media sector.

The changing nature of broadcasting, in particular the transmission aspect of broadcasting, and the potential impact of these changes on industry classification was also discussed. The case of IPTV<sup>3</sup> in particular was brought up. The incidental classification of IPTV in ICT services is coherent with the principle of the proposed classification since it is essentially a transmission activity. The same observation applies to mobile TV, another new mode of broadcasting.

However new modes of broadcasting are at an early stage of development. The clear distinction seen today between the transmission activity and the content development activity may well blur in the future, and establishments classified in other industries could join the IPTV market. If and when these changes materialise, it will be important for statisticians to develop the tools (including classifications) to track the phenomenon.

**Box 7.A1.2. The 2006-07 OECD ICT sector definition  
(based on ISIC Rev. 4)\***

**ICT manufacturing industries**

- 2610 Manufacture of electronic components and boards
- 2620 Manufacture of computers and peripheral equipment
- 2630 Manufacture of communication equipment
- 2640 Manufacture of consumer electronics
- 2680 Manufacture of magnetic and optical media

**ICT trade industries**

- 4651 Wholesale of computers, computer peripheral equipment and software
- 4652 Wholesale of electronic and telecommunications equipment and parts

**ICT services industries**

- 5820 Software publishing
- 6110 Wired telecommunications activities
- 6120 Wireless telecommunications activities
- 6130 Satellite telecommunications activities
- 6190 Other telecommunications activities
- 6201 Computer programming activities
- 6202 Computer consultancy and computer facilities management activities
- 6209 Other information technology and computer service activities
- 6311 Data processing, hosting and related activities
- 6312 Web portals
- 9511 Repair of computers and peripheral equipment
- 9512 Repair of communication equipment

\* From OECD (2006a). The codes and titles were checked against the final (November 2008) version of ISIC Rev. 4.

### **Variables for collection of ICT sector statistics**

The specification of information to be collected about the ICT sector and the consequent definition of variables was not a consideration of the WPIIS. However, it has arisen as a practical matter as data on the subject have been compiled by the OECD.

In its early data collection work on the ICT sector, the OECD collected information on, and defined, the following variables: Capital expenditure, Employment, Number of enterprises, Production, Research and development, Value added, Wages and salaries, Business sector value added and Business sector employment. For those interested, the definitions are available from the OECD publication *Measuring the ICT Sector* (OECD, 2000).

More recently, OECD is accepting definitions of those variables that are compatible with countries' National Accounts tables.

As part of a change to its approach to collection of ICT sector data, OECD is reviewing the definition of the total business sector. As the ICT sector is an activity-based definition, a total business sector defined by activities may be preferable as a denominator, rather than a total business sector defined on an institutional basis.

### **Potential collection difficulties for the ICT sector**

Some participating countries have encountered the following problems in applying the 2002 OECD ICT sector definition:

- For countries that do not use ISIC Rev. 3.1 (or NACE Rev. 1) to classify economic units, there may be some correspondence issues that need to be addressed.
- For confidentiality reasons, some countries may be unable to report data for telecommunications services. Aggregation into total ICT services (which is the level at which OECD generally tabulates ICT sector data) will often solve this problem.

The first dot point above is less likely to be a problem with the 2007 (ISIC Rev. 4) version of the definition because the definition is narrower and more focused on ICT activities. The second dot point is likely to still apply (though with an increase in the size of the telecommunications industry in most countries, may reduce in significance).

### **Implementation of the revised definition**

Implementation of the 2006-07 ICT sector definition is not feasible until a majority of OECD countries are using ISIC Rev. 4 in their national statistical systems. Until then, the 2002 version will continue to be used as a basis of data collection.

## **The Content and media sector definition**

### **History**

The WPIIS started working on a definition of "content" industries in 1998. A brief history of this work is presented here.<sup>4</sup>

- **1997 meeting** – The need for a definition of the Content sector is highlighted. At its first meeting, the ICCP Statistical Panel (later WPIIS) discussed the development of an activity-based ICT sector definition. Several delegates at that meeting expressed a desire to see the definition expanded to include content-producing industries.
- **1998 meeting** – A step-by-step approach is adopted. It was agreed that to "reach agreement a pragmatic, step-by-step approach would need to be adopted where initially

an industry definition for ICT would be pursued and then, once achieved, a broader definition of the “information economy” would be developed that included not only ICT but also content industries”. Having this in mind, it was agreed to exclude the content related ISIC 2230 (Reproduction of Recorded Media) and 9213 (Radio and Television Services) from the proposed definition of the ICT sector (except where transmission of radio and television programs was done as part of the work of a business classified to ISIC 9213).

- **1999 meeting** – A “broad” definition of the content sector. At the 1999 WPIIS meeting, Canada and France presented a proposal for an activity-based definition of the Content sector “Defining the Content Sector: a Discussion Paper”. This proposal was based on the new concept of a “communication product”, defined as the combination of medium and content. The term “communication” was preferred to the term “information” because the latter refers to a particular type of content. It was also suggested that, in order to define the content sector, it is important to distinguish the “creator” and “promoter” of the communication product; the promoter being the taker of the risk for marketing the communication product. Delegates felt that the proposed industry definition of the Content sector was too broad and would lead to inappropriate statistical information being compiled. There was considerable discussion on the principles guiding a definition of content activities, particularly whether an activity could be included in the definition if it only had the capacity to produce communication products, without necessarily being involved in their production. The consensus among delegates was that more work in the elaboration of these basic principles was needed. Delegates also made the point that content goods and services could be produced by many industries but generally only as a small part of their total activities.
- **2000 meeting** – From “content sector” to “electronic content sector and electronic communication products”. At the 2000 WPIIS meeting, the Secretariat presented a paper that argued for defining “the electronic content sector and electronic communication products” and then discussed how these might best be measured. Some delegates were concerned that the electronic content sector as defined would not really answer the questions being asked by their users. Some questioned whether an electronic content sector existed at all. Finally other delegates thought that a better approach might be to treat the electronic content sector, not as a separate sector but as merely one component of an overall content sector. It was argued that this would lead to a much more useful set of outputs including measurement of the transition to an electronic information society. France, on the other hand, was in favour of adopting the approach outlined in the paper.
- **2001 meeting** – A “narrow” definition of a content sector and the need to look at products that can be delivered electronically. Following the 2000 discussion, a new French-Canadian discussion paper, “The Content Sector: Outline and Features” was presented to the 2001 meeting. “Content” was defined as:
  - ❖ an organised message intended for human beings;
  - ❖ resulting from an organised production activity;
  - ❖ combined with, or carried by, a medium;
  - ❖ whose diffusion is not restricted to a list of privileged recipients;
  - ❖ whose diffusion requires a communication medium, i.e. a mass diffusion medium; and
  - ❖ also requires the intervention of a publisher, that is, of a publishing business.

These criteria had led the authors to identify a set of industries whose principal activity would be the publishing of content products. Some member countries were not enthusiastic about limiting the process to what were termed “publishing industries” and the proposal was put that the issue be broadened to all products that could be delivered electronically. The argument was that economic consequences of electronic delivery were of considerable policy importance. Several delegates expressed interest in enlarging the set of industries to education, health services and other industries where ICT is having a profound impact on the way the product is delivered. The United States proposed an alternative approach of focusing on electronic delivery of content and services by particular sectors. It was also argued that the user requirements for data on the supply side should not be disconnected with the ones guiding measurement on the demand side. In the latter area, an interest in the issues of banking, education and access to government services on line had clearly emerged.

- **2002 meeting** – The topic of “content” was not on the agenda. However, during the 2002 meeting under the agenda item “Measuring activities and products in the information economy”, France tabled a room document where an attempt was made to delimit the Information economy. This paper defined the information economy as the sum of the ICT sector and the content sector and proposals for criteria for these sectors and related products were introduced.
- **2004 meeting** – The Secretariat produced a paper in the context of examining user needs and measurement challenges more generally. The paper summarised past WPIIS efforts in the area of content and presented some options for future work. There were two reasons cited in the paper for re-engaging in the discussion. The first related to the need to strengthen the link between WPIIS work and policy needs for measurement. The second related to the potential opportunity offered by the 2007 revisions of the CPC and ISIC. Importantly, the paper extended the debate to digitised products. The outcome of the meeting was that the OECD would initiate an exploratory collection of the supply of some information/digital products and refine questions on digital products contained in the ICT use surveys.<sup>5</sup>
- **2006 meeting** – A proposal for a “content and media” sector definition based on the draft ISIC Rev. 4 was put to the 2006 WPIIS meeting. With the more widespread inclusion of an “information” sector or similar in industrial classifications (including ISIC Rev. 4), it was considered likely that agreement on a definition of the sector could be reached. The development of a content and media sector definition occurred during 2006.
- **2007** – The Content and media sector definition was released (OECD, 2006b).

### **An agreed definition (2006-07)<sup>6</sup>**

The interest in the “content sector” originated in the belief that the rapid transformation and diffusion of information and communication technologies would have a significant impact on industries that create and distribute content (*e.g.* text, audio, video), particularly those that create and distribute content to a wide audience. The structural changes seen since then in the distribution of news, music and video are good examples of those impacts.

In 2002, the North American Industry Classification System (NAICS) introduced an information sector within its structure. That represented a significant departure from the tradition in that it brought together industries that were previously seen as belonging to

different sectors of the economy: publishing, motion picture and sound recording, broadcasting and telecommunications, information services and data processing. The common thread between those industries is that they all include organisations primarily engaged in the creation and dissemination (except by wholesale or retail methods) of information and cultural products, or in providing the means to process and disseminate those products.

While the initial version of the North American Industry Classification System used to be the only classification to recognise an information sector, it is now an integral part of the latest ISIC and NACE as well as national classifications (e.g. the Japanese classification and, the Australian-New Zealand classification).<sup>7</sup> Thus, there is a growing recognition of the close tie between industries that create and disseminate mass market information and cultural products in their various forms (content industries) and the industries that provide the means to disseminate those products (ICT industries).

A proposal was submitted to the 2006 WPIIS meeting for discussion. It included the following ISIC Rev. 4 industries:

| Group      | Class       | Title   |
|------------|-------------|---|
| <b>181</b> |             | <b>Printing and service activities related to printing</b>                |
|            | 1811        | Printing  |
|            | 1812        | Service activities related to printing                                    |
| <b>182</b> | <b>1820</b> | <b>Reproduction of recorded media</b>                                     |
| <b>581</b> |             | <b>Publishing of books, periodicals and other publishing activities</b>   |
|            | 5811        | Book publishing   |
|            | 5812        | Publishing of directories and mailing lists                               |
|            | 5813        | Publishing of newspapers, journals and periodicals                        |
|            | 5819        | Other publishing activities   |
| <b>582</b> | <b>5820</b> | <b>Software publishing</b>  |
|            |             | <b>Content retail trade</b>   |
|            | 4761        | Retail sale of books, newspapers and stationary                           |
|            | 4762        | Retail sale of music and video recordings                                 |
|            |             | <b>Content renting</b>  |
|            | 7722        | Renting of video tapes and disks  |
| <b>591</b> |             | <b>Motion picture, video and television programme activities</b>          |
|            | 5911        | Motion picture, video and television programme production activities      |
|            | 5912        | Motion picture, video and television programme post-production activities |
|            | 5913        | Motion picture, video and television programme distribution activities    |
|            | 5914        | Motion picture projection activities                                      |
| <b>592</b> | <b>5920</b> | <b>Sound recording and music publishing activities</b>                    |

Though this particular proposal was not retained, there was near unanimous support for the adoption of a content and media sector definition. In particular, there was broad support for a definition that includes all industries of Division J of ISIC (Information and communication) except those that are already included in the ICT sector definition.

There was some debate over the placement of multimedia software publishing and broadcasting activities, with the former eventually included in the ICT sector (because ISIC does not recognise a separate multimedia software industry) and the latter in the Content and media sector. Details can be found in the discussion on the ICT sector definition above.

The resulting agreed definition of the Content and media sector is shown in Box 7.A1.3 below. The guiding principle is as follows:

“The production (goods and services) of a candidate industry must primarily be intended to inform, educate and/or entertain humans through mass communication media. These industries are engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organised message intended for human beings.”<sup>8</sup>

**Box 7.A1.3. The 2006-07 OECD Content and media sector definition  
(based on ISIC Rev. 4)\***

**Publishing of books, periodicals and other publishing activities**

- 5811 Book publishing
- 5812 Publishing of directories and mailing lists
- 5813 Publishing of newspapers, journals and periodicals
- 5819 Other publishing activities

**Motion picture, video and television programme activities**

- 5911 Motion picture, video and television programme production activities
- 5912 Motion picture, video and television programme post-production activities
- 5913 Motion picture, video and television programme distribution activities
- 5914 Motion picture projection activities

**Sound recording and music publishing activities**

- 5920 Sound recording and music publishing activities

**Programming and broadcasting activities**

- 6010 Radio broadcasting
- 6020 Television programming and broadcasting activities

**Other information service activities**

- 6391 News agency activities
- 6399 Other information service activities n.e.c.

\* From OECD (2006a). The codes and titles were checked against the final (November 2008) version of ISIC Rev. 4.

**Implementation of the definition of the Content and media sector**

Like the revised ICT sector, implementation of the definition is not feasible until a majority of OECD countries are using ISIC Rev. 4 in their national statistical systems.

**Notes**

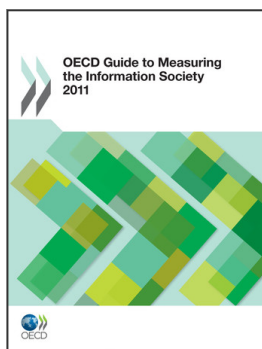
1. Much of the material in this section is taken from OECD (2006a).
2. ISIC 3312 – Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment and 3313 – Manufacture of industrial process control equipment.



3. IPTV is a system whereby a digital television signal is delivered using the Internet protocol. It can take various forms and can be delivered over different types of networks, but it is most commonly commercially supplied over closed network architectures (DSL or VDSL television by telecom operators and digital television by cable operators). Those establishments are typically classified in ISIC Division 61 – Telecommunications. They do not usually engage in the development of channels and programming, only in the transmission of channels and programming developed by others.
4. The notes in this section are adapted from the WPIIS summary records from 1998 to 2003, and the summary record of the 2004 WPIIS meeting. Additional material was added in respect of events occurring after 2004.
5. Only the second of these tasks was completed.
6. Much of the material in this section is taken from OECD (2006a).
7. Although the sector is not identical from one classification to the other, the underlying principles are very similar.
8. The guiding principle in this form was developed after the finalisation of the sector definition and was communicated by WPIIS to the UNSD to be included in an annex to ISIC Rev. 4.

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