

**Compendium of OECD Work on  
INTELLECTUAL PROPERTY (IP)**

**2007**





## *Foreword*

As technical change and globalisation reshape the world economy, intellectual property (IP) has grown in importance and taken on a central economic role. This is reflected in the increased policy interest with respect to coverage, operation and enforcement of IP rights.

IP rights are legal titles permitting their holder to exclude other parties, for a defined period of time, from all or certain uses of the protected item, which, for example, can be an invention (protected by patents), a brand name (protected by trademarks), a creative or artistic work (protected by copyright), an industrial design or a trade secret. The objectives of IP policies are to encourage innovation and to foster the diffusion of knowledge. In this context, IP policies raise competition issues and thus IP agencies and competition authorities benefit from regular dialogue.

Industries heavily relying on innovation, with new technology, novel entrepreneurial or organisational practices, among both manufacturing and service sectors, have an increasing weight in OECD economies. Notably, start up businesses are engaging in application of new technologies and are a major engine of innovation-driven economic growth. As emerging economies such as China or India expand their volumes and shares of world trade, and the international division of labour is further enhanced, knowledge intensive industries will play a key role in determining the comparative advantage of countries. Information and communication technologies and the Internet have facilitated the world-wide circulation of all types of content and information. Such changes result in huge opportunities for innovative companies in OECD economies. At the same time inventors and IP rights-holders are more exposed than before: information and communication technology has made copying of creative content easier. Globalisation has made counterfeiting an attractive activity, now extended to all types of goods, with worsening safety, health and security implications, in addition to its harmful impact on the propensity to innovate.

Hence, for innovators the importance of the legal protection provided by the IP system has risen relative to other forms of protection. The use of IP rights by innovators has expanded, as witnessed by the rapidly rising numbers of patents, trademarks, and copyright protected material. IP-related litigation has also increased. Changes in IP laws and policies over the past decades have tended to boost the rights accorded to IP owners and constrain those available to users of IP: more subject matter is protected (e.g. software and genetic material), the term of protection has increased (for copyright) and higher damages are awarded by courts to IP holders.

Other transformations in innovation systems have complicated the role and effectiveness of IP. The emergence of open modes of innovation, where greater knowledge flows between firms, and between firms and universities, has altogether increased the need for protection and strengthened the potentially damaging effects of excessive protection. The increasing prevalence of standards and the need for interoperability in various technical fields has made it necessary to co-ordinate the IP portfolio and strategies of many independent players. Government policies have sought to boost the economic contribution of inventions from academia through changes in the assignment of IP rights, with the view that patents would strengthen incentives for commercialisation, which, however, results in a blurring of the

distinction between profit oriented and public good-oriented research. The expansion of patenting has also fostered the development of markets for technology which improves the dissemination of inventions and leverages the impact of new knowledge on productivity and growth.

This Compendium of OECD Work on Intellectual Property is intended as a descriptive panorama on recent and ongoing OECD activity on IP issues. It is hoped that the compendium would also provide a helpful background for further work on IP within the framework of a proposed *OECD Innovation Strategy*.

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## IP, innovation and economic performance

This activity, developed between 2002 and 2004, provided an overview of the effects of IPR regimes on incentives for innovation, diffusion of knowledge and, ultimately, economic performance, which was then presented to the OECD Committee for Scientific and Technological Policy at Ministerial level in January 2004 as a report on *Patents and Innovation: Trends and Policy Challenges*. The work examined new conditions for knowledge appropriation and diffusion; the impact of IPR on invention, knowledge diffusion and economic performance; IP management in public research organisations; biotechnology patenting; IPR for software and services; and policy implications. A survey on changes in business patenting and licensing practices was undertaken in co-operation with the OECD's Business and Industry Advisory Committee (BIAC) as an input to the study, and a major conference was held on 28-29 August 2003 in Paris, the proceedings of which are available as an OECD publication (see OECD 2004, *Patents, Innovation and Economic Performance*). Follow-up work took the form of studies on the role of IPR in innovation and knowledge diffusion and on research use of patented knowledge. More recent or ongoing work is addressing issues in patents valuation, IP markets, competition issues, the role of globalisation and new open innovation, to develop a better understanding of the economic role of IP.

### Valuation and exploitation of patents (ongoing)

The mere issuance or possession of a patent is only the beginning of a chain, whose major developments take place in downstream stages, on technology, product and financial markets. Work on IPR, innovation and technology diffusion, developed in conjunction with the horizontal project on intellectual assets and value creation (IAVC – [www.oecd.org/sti/ipr/iavc](http://www.oecd.org/sti/ipr/iavc)), is focused on patent valuation and exploitation, including licensing, securitisation and other forms of monetisation of patents. Two conferences were held in 2005 (Berlin) and 2006 (London). An analytical review was released in June 2006 (*Valuation and exploitation of Intellectual Property*, STI Working Paper 2006/5) and a study on Patent Licensing Markets and Innovation was included in the OECD's *Science, Technology and Industry Outlook 2006* (Chapter 5). To date, this activity has shown the importance of the use of a patent in the generation of value, both for patent holders, technology users and society at large. These studies have also revealed that a greater share of firms in Asia Pacific and North America reported growth in inward and outward patent licensing than in Europe.

New practices and new actors are emerging in this field, which tends to expand and deepen markets for technology. Patents allow technology to circulate, from inventors to users who can contract a licence, allowing for instance the emergence of companies specialised in inventive activities. Patents are increasingly used for raising capital and liquidity, which in turn facilitates innovation. Policy action could work through improvements in the operation of patent systems, the disclosure and diffusion of information and the development of better valuation models for patents and other intellectual assets. Further research is going to enter into more detailed analysis, at the sector level, in particular of the types of firms (*e.g.* technology-based start-ups). It will gather more quantitative evidence, and assess the effect of particular policies on the economic use of patents and other IP. The relevant documentation is available at [www.oecd.org/sti/ipr](http://www.oecd.org/sti/ipr).

**Contact:** [Dominique.Guellec@oecd.org](mailto:Dominique.Guellec@oecd.org)

## Competition policy issues (*completed*)

Although the OECD does not have an ongoing or planned programme of work at the intersection of competition and IP issues in relation to IP, the Competition Committee occasionally holds roundtable discussions in this area. One such discussion was held in June 2004 on “Intellectual Property Rights and Competition Policy with a Focus on Biotechnology”. The Committee first addressed the proper role of competition agencies in the IP-granting process. The discussion revealed a nearly unanimous view that competition agencies should not be directly involved in the formulation or implementation of IP policy, but that agencies should strive to open and maintain an ongoing dialogue with IP agencies. The discussion next turned to IP-related conduct that raises competition law enforcement issues, focusing on patent pools and unilateral refusals to license. Different countries analyse that conduct in different manners, but there was general agreement that it is a good idea for competition agencies to promulgate guidelines concerning the overlap between IP and competition law enforcement. In fact, one of the highlights of this part of the discussion was a presentation by the EC on their new IP guidelines. Next, the Committee addressed the interface between IP and competition policy in the context of the biotechnology industry. Members emphasised the rapid growth, complexity and economic significance of the industry, and recognised that they must proceed carefully when intervening because their actions could have the unintended effect of discouraging innovation. The roundtable materials, including an Executive Summary, a background note by the Secretariat, written contributions from 14 delegations, and a summary of the discussions are available at:

[www.oecd.org/dataoecd/61/48/34306055.pdf](http://www.oecd.org/dataoecd/61/48/34306055.pdf).

The question of how competition and patent rights affect innovation has fascinated and stymied economists for decades. At its October 2006 roundtable discussion on “Patents, Competition and Innovation”, the Competition Committee focused on recent theoretical and empirical findings, drawing significant input from a panel of academic experts and corporate executives. The Committee addressed the issue of whether competition stifles innovation or promotes it. Although there seems to be no universally-applicable relationship, many industries exhibit an inverted U-shape correlation between competition and innovation. In other words, moderate levels of competition seem to be most highly correlated with more innovation. There were conflicting views among the delegates and some panellists regarding the advisability of implementing compulsory licensing remedies in competition cases, with some contending that such remedies will destroy incentives to innovate and others arguing that their occasional use is necessary and not overly harmful to innovation. The Committee then discussed the relationship between patent rights and innovation, which varies considerably from industry to industry. Some sectors rely heavily on patents to protect the value of their inventions, while others rely more on alternative means such as secrecy and lead time. Written contributions discussed the various strategies that competition agencies are using to co-operate with patent agencies in an effort to improve the interaction between patent policy, competition policy, and innovation. The roundtable background documents and a summary of the discussions will be published in 2007 and made available on the Competition Division’s website at: [www.oecd.org/competition](http://www.oecd.org/competition).

**Contact:** [Jeremy.West@oecd.org](mailto:Jeremy.West@oecd.org)

### **Open innovation** (*new*)

A new project on Open Innovation and Globalisation will include an examination of the use of IPR in the innovation strategies of large firms. The activity is being led by Belgium, the Netherlands, Norway and Japan. A total of 15 OECD countries and the European Commission are currently participating in the activity and 9 countries are carrying out new case studies of open innovation in firms. In addition, the role of IPR in the R&D location decisions of multinational firms will be examined. The objective is to document and analyse the incidence of “open” or collaborative models of innovation in firms and to draw implications for fine-tuning R&D and innovation policies. In December 2006, a joint OECD-Dutch Ministry of Economic Affairs conference on “Open Innovation and Globalisation” was held in The Hague to examine the conceptual and empirical evidence of open innovation and the policy implications. The discussions revealed that innovation policies must adapt to support collaborative models of research and innovation and shed light on existing tensions between restrictive IPR practices and the move to open innovation. A summary of the workshop is under preparation and the presentations are available on the OECD website at [www.oecd.org/sti/innovation](http://www.oecd.org/sti/innovation). Preliminary findings and the direction of further work will be discussed at the June 2007 meeting of the Working Party on Innovation and Technology Policy (TIP). The project will conclude in the spring of 2008 with the publication of the final report.

**Contacts:** [Mario.Cervantes@oecd.org](mailto:Mario.Cervantes@oecd.org) and [Koen.Debacker@oecd.org](mailto:Koen.Debacker@oecd.org)

### **Econometric studies on the determinants of R&D and patenting** (*completed*)

Econometric studies carried out by the Economics Department on the determinants of R&D, patenting and the labour market for scientists and engineers in a panel of 19 OECD economies concluded that stronger IP protection has a substantial positive effect on patenting, but only a limited effect on R&D intensity. The econometric work also suggested that there may be important interactions between an index of IPR strength and some measures of product market competition, with stronger IP protection offsetting some of the beneficial effects of enhanced competition. However, the magnitude of these effects proved difficult to pin down precisely. As the IPR index now has a similar value for most OECD economies, one conclusion from this work is that it is unlikely that differences in IP protection are the principal factor behind continuing cross-country differences in the intensity of innovation activities.

**Contact:** [Nigel.Pain@oecd.org](mailto:Nigel.Pain@oecd.org)

## IP and the public sector

### IP in public research and academic patenting (*completed*)

A two-year project on the strategic use of IPR by universities and public research organisations (PROs) was completed in 2003. The project reviewed national laws and regulations governing the ownership and exploitation of IPR at universities and other public research organisations, and surveyed technology transfer offices at universities and public laboratories to collect the cross-country data on patenting and licensing by universities and PROs. In addition, a series of case studies were prepared to examine recent legislative or policy changes in OECD countries to enhance protection and exploitation of academic IPR, and to analyse the strategies and practices of research institutions in managing IP in key fields, such as biotechnology and ICT (see *Turning Science Into Business: Patenting and Licensing at Public Research Organisations*, OECD 2003).

As part of the ongoing OECD Country Reviews of National Innovation Policies, attention is also given to IPR policies in the public research sector. Thus far Chile, Luxembourg, New Zealand, South Africa and Switzerland have been reviewed and a review of China is currently underway. Reviews of national innovation policies of Greece, Hungary, Mexico, Norway, Turkey, and Russia will also be conducted during 2007-2008 (see [www.oecd.org/sti/innovation](http://www.oecd.org/sti/innovation)).

**Contact:** [Jean.Guinet@oecd.org](mailto:Jean.Guinet@oecd.org)

### Research use of patented inventions (*completed*)

The OECD, the Spanish National Research Council (CSIC) and the Spanish Patent and Trademark Office (OEPM), with the support of the European Patent Office and a contribution from the Government of Japan, organised a conference in Madrid in May 2006 to examine national practices and policies regarding the research use of patented inventions. The conference showed that existing concerns are limited primarily to research in pharmaceuticals and biotechnology and are most pronounced in the areas of research tools in genomics and biotechnology. Many of the concerns are related to threats of litigation and are more worrisome in countries with traditionally high levels of litigation, such as the United States. The workshop concluded that additional evidence on the impact of patents on scientific research was needed, especially in fields outside the life sciences. Furthermore, it noted that as the knowledge economy expands, and with it the production and commercialisation of knowledge, tensions between the protection and diffusion of IP may continue to arise, but at the same time solutions to facilitate access to inventions for research purposes, such as good licensing practices, may be found within the current system. The report of the Madrid Conference is available at: [www.oecd.org/dataoecd/21/38/37868230.pdf](http://www.oecd.org/dataoecd/21/38/37868230.pdf).

**Contact:** [Mario.Cervantes@oecd.org](mailto:Mario.Cervantes@oecd.org)

## **OECD Principles and Guidelines for Access to Research Data from Public Funding** *(completed)*

Access to research data can increase returns from public investment in this area, as this reinforces open scientific inquiry, encourages diversity of opinion and enables the exploration of topics and implications not envisaged by the initial research. In 2004 Science and Technology Ministers called on the OECD to develop a set of guidelines based on commonly agreed principles to facilitate cost-effective access to digital research data from public funding. The resulting *OECD Principles and Guidelines for Access to Research Data from Public Funding* were adopted by the OECD Council in December 2006. These *Guidelines* are intended to assist all actors, public or private, in improving access to and international sharing of research data. The *Guidelines* were published in April 2007 and can be accessed at: [www.oecd.org/sti/stpolicy](http://www.oecd.org/sti/stpolicy).

**Contact:** [Dirk.Pilat@oecd.org](mailto:Dirk.Pilat@oecd.org)

## **Digital access and commercial re-use of public sector information (PSI)** *(ongoing)*

Wider availability and use of public sector information and content can contribute to economic growth and enhanced citizen welfare. Broad availability of ICTs can greatly enhance this process. This requires addressing issues such as unclear access regimes for potential distributors, conditions of access (competitive access for further distribution, or monopoly arrangements on the side of government or single distributors), discouraging pricing mechanisms (pricing at total cost recovery plus return on investment) and inefficient distribution to final users (limited access for final users, lack of variety in distribution channels, pricing policies which decrease use). These factors are often influenced by questions related to IP and licensing agreements. This holds especially true when public data holdings are not exempted from IPRs and also copyright and data-base protection regimes. With the growth of ICTs, similar issues arise in public sector cultural content or archive material which is intended for wide and easy access. Follow up work includes *a)* refinement of analysis, and *b)* development of international principles and guidelines (following the completion of an OECD Recommendation concerning access to research data from public funding which was initiated by OECD Science and Technology Ministers in 2004). The work can be accessed at: [www.oecd.org/sti/digitalcontent](http://www.oecd.org/sti/digitalcontent).

**Contact:** [Graham.Vickery@oecd.org](mailto:Graham.Vickery@oecd.org) and [Sacha.Wunsch-Vincent@oecd.org](mailto:Sacha.Wunsch-Vincent@oecd.org)

### Scientific publishing and digital delivery (*ongoing*)

Scientific publishing is both a significant economic activity in its own right, and contributes to economic growth by enabling the diffusion of scientific and technical knowledge. As a sector it leads in digital delivery and helps the emergence of new digital content business models in the print media, by offering new capabilities in reproducing, distributing, controlling, and publishing information. Indeed, researchers are now producing a wide range of “born-digital” objects as an integral part of their work. Increasing use of digital content is thus increasingly central to scientific activity, but may conflict with some existing practices and policies that shape traditional publishing.

OECD analysis to date covers the adoption of e-commerce in publishing, digital delivery, and the use of e-journals, e-books, databases, archives and repositories by research authors and research users. It reviews the drivers of digital delivery and online access for authors, publishers and users, levels of use, barriers to further adoption, and some of the impacts of digital delivery and online access to scientific and scholarly content. Key issues include *a*) new pricing and publishing models (including online aggregation of journal titles through consortia or site licensing arrangements, open access archives and publishing), *b*) new applications of IP law and *c*) new approaches to the preservation of digital content. Policy implications are raised for topics such as research funding, research evaluation, infrastructure, IPRs, standards and interoperability. The work can be accessed at:

[www.oecd.org/dataoecd/42/12/35393145.pdf](http://www.oecd.org/dataoecd/42/12/35393145.pdf).

**Contact:** [Graham.Vickery@oecd.org](mailto:Graham.Vickery@oecd.org)

## The global dimension

### Combating counterfeiting (*ongoing*)

In response to rising concerns in government and the business community, the OECD launched a project in mid-2005 that assesses the effects of counterfeiting and piracy on economies. The project, which is being funded by voluntary contributions from stakeholders, is being carried out in three separate phases.

Phase 1, to be finalised by May 2007, focuses on counterfeit and pirated products (*i.e.* tangible products that infringe trademarks or copyrights) as well as infringements of patents and design rights. Analysis to be published will incorporate results from sectoral studies covering audio visual, automotive, electrical components, food and drink, pharmaceuticals and tobacco. Work on the pharmaceutical sector covers a wider range of IP issues than counterfeiting as such (see box below).

The Phase 1 study has been structured to include: *a)* an analysis of trends and developments, which also explores techniques that can be used to improve measurement of the volume and scope of counterfeiting and piracy worldwide; *b)* an assessment of the effects of counterfeiting and piracy on rights holders, consumers and society at large (including governments); *c)* a description and assessment of the policies and measures being used to combat counterfeiting and piracy in OECD and non-OECD economies, at both the national and multilateral levels; and *d)* a series of sectoral assessments that illustrate the various forms that counterfeiting and piracy can take, and the different types of effects that counterfeit and pirated products can have on affected parties. Phase 2, to be started in mid 2007, will focus on piracy of digital content, while Phase 3 will address all remaining infringements of IP rights.

**Contacts:** [Wolfgang.Huebner@oecd.org](mailto:Wolfgang.Huebner@oecd.org) and [Marcos.Bonturi@oecd.org](mailto:Marcos.Bonturi@oecd.org)

#### Counterfeiting and piracy of pharmaceuticals

The counterfeiting and piracy of pharmaceuticals has economic and social impacts, as well as broader implications for public health. The sector report on the counterfeiting and piracy of pharmaceuticals examines the diverse definitions of counterfeit pharmaceuticals, the nature and scope of counterfeiting activities, the modes of operation, assesses the trends and magnitude, evaluates the impacts on patients/consumers (especially the public health implications), on the private sector and on governments, and analyses measures employed for combating counterfeiting of pharmaceuticals (including technology, legislative and regulatory mechanisms, education and risk communication, enforcement, securing of distribution/supply chain, and international co-operation). Anticipated publication in 2007.

**Contact:** [Christina.Sampogna@oecd.org](mailto:Christina.Sampogna@oecd.org)

### IP in China (*completed*)

In the framework of OECD activities with non-member economies, DSTI organised two events on IPR in April 2004 jointly with the Chinese government authorities: a high-level workshop on Intellectual Property Rights and Economic Development in China; and a high-level seminar on Intellectual Property Rights Issues Related to Public Research Institutions. The objectives of these events were to share with China OECD insights and experiences related to IP policies that could help to promote economic growth and social development through technological innovation. The events aimed also at assisting the efforts by the Chinese government to improve China's IP regime in general and bring it in line with the TRIPS agreement, in particular. These efforts will contribute to the implementation of China's strategy of "Revitalising the nation through science and education", aiming at promoting social and economic growth through science, technology and innovation advancements. The two events organised provided a basis for further co-operation on IP issues between the OECD and China. The proceedings of these events were published in 2005 and are available at [www.oecd.org/sti/ipr](http://www.oecd.org/sti/ipr). Further work on China included a report on "Intellectual Property Rights in China: Governance Challenges and Prospects", a joint contribution with the Public Governance Directorate to a broader OECD report entitled *Governance in China* (OECD, 2005).

**Contact:** [Gang.Zhang@oecd.org](mailto:Gang.Zhang@oecd.org)

### International trade-related aspects of IP (*ongoing*)

Under the auspices of the OECD Trade Committee, the Trade and Agriculture Directorate is engaged in work on trade-related aspects of IP rights. Work to-date has highlighted the integration of IPRs in multilateral and regional trade accords. It points to the existence among developing countries of a positive association between the strength of IPRs and a variety of economic indicators, albeit with some variation across sectors and countries and subject to certain conditions.

In recent years, papers have covered such topics as:

- "International Licensing and the Strengthening of Intellectual Property Rights in Developing Countries", which presents an economic assessment of the issue.
- "The Impact of Trade-Related Intellectual Property Rights on Trade and Foreign Direct Investment in Developing Countries", which describes the relationship of changes in IPR strength to changes in FDI and trade.
- "Technological Change and the Protection of Intellectual Property Rights in the New Economy", which provides an overview of developments in international organisations that were prompted by technological change and that relate to international law, initiatives or projects concerning IPRs.
- "Intellectual Property Rights in Regional Trade Agreements", which reviews selected regional trade agreements and the ways they extend beyond the minimum requirements of the WTO TRIPS Agreement.

Currently, a Trade and Agriculture Directorate study is considering the impact of strengthened IPRs in developing countries on technology transfer via such channels as merchandise trade, services trade, and foreign direct investment. In addition, work on trade-related aspects of IPRs is underway in the context of a large project focused on the increased integration of the so-called BRIC countries (Brazil, Russia, India and China) in the global economy.

**Contact:** [Douglas.Lippoldt@oecd.org](mailto:Douglas.Lippoldt@oecd.org) and [Sebastien.Miroudot@oecd.org](mailto:Sebastien.Miroudot@oecd.org)

### **IP management in international technology collaboration** *(possible new activity)*

At its June 2007 meeting, the TIP group will discuss a proposal for follow-on work on IPRs in the context of its current work programme, including possible work on IPR management in international technology collaboration. IPR arrangements are an important element of international co-operation between firms as well as between public research organisations (PROs) and between PROs and firms. However, differences in IPR policies and practices, especially in new and emerging areas, can act as barriers to effective collaboration upstream as well as downstream.

**Contact:** [Mario.Cervantes@oecd.org](mailto:Mario.Cervantes@oecd.org)

## **IP in the information society**

In addition to being a heavy investor in R&D, ICT production is a leading sector in terms of patent filings, where proprietary standards loom large. The ICT producing sectors are also more globalised than the average of manufacturing, and make up for a large share of the high-tech trade between OECD and non-OECD economies. With China and India playing an important role in ICT goods production and services, the role of IP in maintaining competitiveness, in innovation and, for example, in problems relating to the enforcement of IPRs is important and growing. The ICT sector is also host to community-based developments such as open source software and to large firms providing open access to their patents and hence is a good industry sector in which to analyse new forms of innovation which raise IP management issues. There are several strands of work in the OECD relating to information and communication technologies (ICTs) which partially or more extensively relate to IP issues. Work in this area has generally focused on the changing nature of the information technology and the software sector and the role of IP for competitiveness in globally organised value chains, increasing intra-firm trade, and production and services outsourcing (including offshoring of R&D services and transfers of royalties and licence fees) (*OECD Information Technology Outlook 2006*).

## Digital content creation, access, distribution and copyrights (*ongoing*)

Digital content is growing rapidly, as OECD economies emphasise the production of high value intangibles, and the ICT infrastructure develops through broadband networks, which calls for an analysis of new models for distributing IP (*e.g.* open access models) and their interactions with copyright law, including enforcement challenges but also consumer and privacy issues. New and growing issues include content protection, accessing and licensing content in a new technological environment (collecting societies, territoriality of copyright law, new licensing regimes, new means to compensate creators, concept of fair use), the rise of user-created content and the liability of online intermediaries for unauthorised content.

OECD studies have focused on specific areas including scientific publishing (see above), music, online computer games, mobile content, public sector information and content, user-created content, film & video and news distribution. An international conference on the Future Digital Economy: Digital Content Creation, Distribution and Access was held in Rome on 30-31 January 2006 and has helped develop a framework for Digital Content Policies, calling for greater policy priority to be given to policies which foster innovation in digital content and diffusion. The framework is built around: *a)* innovation and technology; *b)* value chain and business model issues (*e.g.* developing a competitive, non-discriminatory business environment); *c)* enhancing the infrastructure (*e.g.* standards and interoperability); *d)* business and regulatory environments that balance the interests of suppliers and users, in areas such as the protection of IP and digital rights management without disadvantaging innovative e-business models; *e)* governments as producers and users of content; and *f)* conceptualisation, classification and measurement issues. For more information, see: [www.oecd.org/sti/digitalcontent](http://www.oecd.org/sti/digitalcontent).

**Contacts:** [Graham.Vickery@oecd.org](mailto:Graham.Vickery@oecd.org) and [Sacha.Wunsch-Vincent@oecd.org](mailto:Sacha.Wunsch-Vincent@oecd.org)

## Digital rights management (*ongoing*)

As part of the work on digital content and the work on consumer protection, opportunities and challenges raised by digital rights management (DRM) and the need for appropriate disclosure have been studied. Effective and interoperable DRM technologies are seen as business enablers for the digital distribution of content and drivers for the variety of new business models that consumers may want. Through the WIPO Internet Treaties, governments have pledged to create “adequate legal protection and effective legal remedies against the circumvention” of technological protection measures like DRMs.

Yet technical access limitations to content are also reported to have negative effects on the growth of legitimate usage forms as DRMs generally prevent access and modification of files, thereby limiting access and often interoperability, etc. The question then arises how technical protection measures can be implemented while preserving the balance between exclusive rights and fair use. Disclosure issues raised by the use of DRM and copy control technologies to protect IPRs are also examined. The work focuses on the application of copy control and DRM technologies in three areas: copy-protected CDs; online music, and DVD regional coding. In each of these areas, work examines the kinds of restrictions that are commonly placed on usage of the products (for example, restrictions on making back-ups or private copies) and assesses the adequacy of the information that is provided to consumers concerning such restrictions. For more information, see: [www.oecd.org/sti/digitalcontent](http://www.oecd.org/sti/digitalcontent).

**Contacts:** [Sacha.Wunsch-Vincent@oecd.org](mailto:Sacha.Wunsch-Vincent@oecd.org) and [Peter.Avery@oecd.org](mailto:Peter.Avery@oecd.org)

### **Internet domain name system** (*ongoing*)

Recognising the importance of the domain name system to the Internet, the OECD has undertaken work in this area for more than a decade. This has included work on market developments and allocation issues relating to generic top level domain names, comparing country code domain name administration across the OECD, analysing secondary markets for domain names and cyber squatting as well as issues surrounding the “whois” database. The OECD is an observer at ICANN’s (Internet Corporation for Assigned Names and Numbers) Government Advisory Committee and participates in the Internet Governance Forum.

**Contact:** [Sam.Paltridge@oecd.org](mailto:Sam.Paltridge@oecd.org) and [Karine.Perset@oecd.org](mailto:Karine.Perset@oecd.org)

## **Biotechnology**

### **OECD Guidelines for the Licensing of Genetic Inventions** (*completed*)

Biotechnology and genetics research have been the subject of extensive investment by both the public and private sectors, with the products and processes emerging from these efforts making an increasing contribution to human health and health care. Biotechnological, including genetic, innovations have also been the subject of IP rights for decades. Recently, some governments, patient groups and healthcare providers have expressed concerns about the manner in which certain genetic inventions have been licensed and exploited, and whether there has been impediment to innovation, research and access to technologies, particularly for diagnostic genetic services in the human health care field.

In order to address these concerns and to ensure better access and diffusion of knowledge, technology, products and services, to foster innovation and to stimulate R&D, OECD Council adopted the *Guidelines for the Licensing of Genetic Inventions* in February 2006. They offer principles and best practices for the licensing of IP rights that relate to genetic inventions used for the purpose of human health care. Overall, the Guidelines seek to foster the objectives of stimulating genetic research and innovation while maintaining appropriate access to health products and services. The Guidelines, available in English, French, Italian and Japanese, can be accessed at: [www.oecd.org/sti/biotechnology/licensing](http://www.oecd.org/sti/biotechnology/licensing).

**Contact:** [Christina.Sampogna@oecd.org](mailto:Christina.Sampogna@oecd.org)

### **Collaborative mechanisms for the management of IP (ongoing)**

Recently industry and governments have begun to consider factors and mechanisms for encouraging collaboration amongst diverse interests in order to stimulate innovation, foster R&D and promote access to and diffusion of technology and information. Many models of collaborative mechanisms, such as patent pools or clearinghouses, have previously been employed within other areas, such as information technology. However, there is increasing consideration of their potential utility within the life sciences.

This consideration has been supported by a number of entities which have recommended that governments, the public sector and the private sector consider the development and use of collaborative mechanisms, within the life sciences and especially in the field of biotechnology. Organisations that have made such recommendations include the Australian Law Reform Commission, the Canadian Expert Working Party on Human Genetic Materials, Intellectual Property and the Health Sector (Canadian Biotechnology Advisory Committee), the United States National Academies of Science, and the OECD. Consideration of these types of mechanisms is also occurring within the private sector, wherein a number of life science companies are also studying the use of such mechanisms for stimulating innovation and fostering R&D.

A high-level roundtable was organised with experts with diverse backgrounds and experiences including private sector, public sector, finance, biotechnology/pharmaceutical/science, management, legal (IP, anti-trust/competition), research/academia, etc. The roundtable examined the diverse types of collaborative mechanisms and the manner in which they may be employed to facilitate access to and use of biotechnological innovations for purposes of research, commercialisation and the provision of products/services. An analytical report providing an overview of the issues pertaining to collaborative mechanisms and their application in the life sciences is being developed and is expected to be published in 2007. Work focusing on such mechanisms for increasing access and diffusion of knowledge will continue in the 2007-2008 biennium.

**Contact:** [Christina.Sampogna@oecd.org](mailto:Christina.Sampogna@oecd.org)

### **Bioeconomy (new)**

OECD's International Futures Programme is conducting work on *Bioeconomy to 2030* to look at IP issues as part of a module on business models and value chains and as part of a second module on regulation and policy. The focus is likely to be on the international context - for instance, will the increasing involvement of India and China in biotechnology influence how IP is used and standard practice for IP? Do we expect significant changes in the future in the IP strategy of firms active in biotechnology? Work in this area is expected to begin in August 2007, with preliminary results available by November 2007.

**Contact:** [Anthony.Arundel@oecd.org](mailto:Anthony.Arundel@oecd.org)

## Patent statistics and methodological work

The OECD continues to develop and promote statistical capabilities in the field of patents and use them to analyse developments in technology and in IP strategy and policy. An international patents statistics infrastructure is maintained in close co-ordination with major partners such as the World Intellectual Property Organisation (WIPO), European Patent Office (EPO), Japan Patent Office (JPO), US Patents and Trademarks Office (USPTO), Eurostat, and the National Science Foundation (NSF). It currently consists of:

- *Databases.* These include EPO's Worldwide Patent Statistics Database ("Patstat"), which includes 60 million patents and patent applications from about 80 patent offices; WIPO's international patents (PCT) database; a database of JPO patents developed by Japan's Institute of Intellectual Property (IIP); and OECD's database of triadic patent families.
- *Statistical methodology for compiling a range of patent indicators.* The OECD *Patent Manual*, which gathers information and guidelines on indicators, is currently being updated (expected to be finalised by Mid-2008), under the aegis of the NESTI (OECD's Working Party of National Experts on Science and Technology Indicators).
- *Statistical publications.* Databases and indicators are available on DSTI's web site. A *Compendium of Patent Statistics* is released annually by OECD.

Statistical work consists of compiling indicators in areas of policy interest, such as the technological performance of countries (triadic families), diffusion of technology (patents issued by national offices), the internationalisation of technology (cross-border inventions), the value of patents (based on citations), patenting activity of universities and public research organisations, patents in specific technical areas (information technology, biotechnology (see box below), nanotechnology, energy, environment, space, etc.), patents filed by industrial sectors, etc.

Analytical work is being conducted using these data and indicators, focussing on issues such as: the development of nanotechnology, the regional dimension of innovation and the internationalisation of innovative activities. There is also a parallel effort with various partners, including the EPO, aimed at improving the measurement of markets for technology, including licensing activity.

**Contact:** [Dominique.Guellec@oecd.org](mailto:Dominique.Guellec@oecd.org)

### Biotechnology patent classifications

There is no category of patent codes established for the field of "biotechnology". Over the past few years, work has been carried out within the OECD to develop a provisional definition of 'biotechnology patents' through the identification of codes that may cover the field of biotechnology. The codes for the OECD provisional definition for biotechnology patents are drawn from the International Patent Classification (IPC) system established and managed by the World Intellectual Property Organisation (WIPO). The results of work on patent statistics by field of technology can be found at [www.oecd.org/sti/ipr-statistics](http://www.oecd.org/sti/ipr-statistics). The definition of biotechnology patents in use at the OECD has been published in the *OECD Science, Technology and Industry Scoreboard 2005* (Section C5). The Working Party on Biotechnology, working with the major patent offices and other stakeholders, is developing a more refined definition of biotechnology patents, to be made public in 2007.

**Contact:** [Christina.Sampogna@oecd.org](mailto:Christina.Sampogna@oecd.org)

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