

EUROPEAN TREND CHART ON INNOVATION

Thematic Trend Report:
“Innovation & IPR”

Covering period:
November 1999 – June 2000

**EUROPEAN COMMISSION, DIRECTORATE GENERAL ENTERPRISES
“INNOVATION AND SME” PROGRAMME**

The European Trend Chart on Innovation

Innovation is a priority of all Member States and of the European Commission. Throughout Europe, hundreds of policy measures and support schemes aiming at innovation have been implemented or are under preparation. The diversity of these measures and schemes reflects the diversity of the framework conditions, cultural preferences and political priorities in the Member States. The "First Action Plan for Innovation in Europe", launched by the European Commission in 1996, provided for the first time a common analytical and political framework for innovation policy in Europe.

Building upon the Action Plan, the "Trend Chart on Innovation in Europe" is a practical tool for innovation policy makers and scheme managers in Europe. Run by the "Innovation" directorate of DG Enterprises, it pursues the collection, regular updating and analysis of information on innovation policies at national and Community level, with a focus on innovation finance; setting up and development of innovative businesses; the protection of intellectual property rights and the transfer of technology between research and industry.

The Trend Chart serves the "open policy co-ordination approach" laid down by the Lisbon Council in March 2000. It supports policy makers and scheme managers in Europe with summarised information and statistics on innovation policies, performances and trends in the European Union. It is also a European forum for benchmarking and the exchange of "good practices" in the area of innovation policy.

The "Trend Chart" products

The Trend Chart on Innovation has been running since January 2000. It tracks innovation policy developments in all EU Member States, plus Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Iceland, Israel, Latvia, Liechtenstein, Lithuania, Norway, Poland, Romania, Slovak Republic and Slovenia. The Trend Chart web site (www.cordis.lu/trendchart) will provide access to the following services and publications as they become available:

- a database of policy measures across Europe;
- a "who is who?" of agencies and government departments involved in innovation;
- a series of country reports;
- a series of six-monthly trend reports;
- a number of benchmarking reports on specific themes;
- statistical reports such as the European Innovation Scoreboard;
- the six-monthly newsletters of the Trend Chart;
- the annual reports of the Trend Chart;
- and other publications.

The present report was prepared by Hugh Cameron and based on information gathered by a network of correspondents co-ordinated by Paul Cunningham. Both are from PREST (University of Manchester). The information contained in this report has not been validated in detail by the Member States or by the European Commission.

Contact: Peter Löwe; peter.loewe@cec.eu.int

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Trends and Measures in Intellectual Property Rights and Innovation.

Executive Summary

From a public policy viewpoint, it has been increasingly recognised that intellectual property rights (IPR) are an essential feature of a successful, innovative economy. This is seen in the general policy area. In the European Union, particular impetus was given by the Green Paper on Innovation (1995) and the subsequent First Action Plan for Innovation in Europe (1996), which stressed the importance of IPR to innovation and competitiveness and prioritised several areas for policy action. Policies have also been addressed towards specific sectors or problem areas, such as genetic engineering and computer software.

The purpose of this report is to identify a set of general trends in the field of IPR activities and innovation, in which context the information contained in the 'Trend Chart' database can be viewed. The present paper specifically covers information reported by correspondents over the period December 1999 – June 2000. It should, however, be noted that trends over such a short timescale will often be difficult to discern as changes in this field are neither rapid nor even over time. It should also be noted that this framework contains only information about the relationship between innovation policies and IPR and especially about policies that modify IPR conditions.

Nevertheless, the clearest single trend detected in this field is a **recognition that intellectual property rights are an essential and integral part of innovative and competitive economies**. There has been a resulting movement of the field of IPR from being a rather specialised and often obscure legal discipline, even within companies, into the mainstream of innovation policy. In the modern knowledge-driven economy, research results and other intangible assets are often crucial to the fortunes of major business sectors and the emergence of new companies and sectors, often in the most technology-dependent and fast-growing markets. Parallel policy emphasis on the process of technology transfer, particularly between the public and the private sectors, has further underlined the importance of a predictable and stable framework for IPR issues.

Other trends may also be detected:

- **strong IPRs are now associated with innovation policies**, although this assumption is not uncontroversial, and there are increasing signs that IPRs, as a result of their increasing prominence in policy debates, are also becoming the focus of more critical attention, from a variety of sources. Various means are being used to strengthen IP protection and thus encourage innovation: Lowering the costs of acquiring and maintaining patents; increasing the coverage of IPRs; new measures (e.g. "grace periods", supplementary protection); costs of litigation; and stronger enforcement measures. There are,

however, some countervailing trends, prompted, for example, on the basis of moral or ethical considerations.

- The increasingly international nature of trade has led to **growing harmonization of IPR frameworks**. Two trends are identifiable: Global harmonisation (impact of WIPO); European harmonization (in response to existing complexity).
- The **introduction of new technologies and need to include them within IP frameworks** (particularly computer software and biotechnology).
- The **importance of public sector institutions in generating intellectual property**, and the need to revise rules governing their ownership. The exploitation of IP produced by public institutions or from publicly funded projects is the area of most activity in the EU. National governments and the European Commission have focused on several issues: Applying pressure to public institutions to exploit their results; revising rules for industrial collaborations; revising rules governing researchers' rights in public research institutions.
- The **changing roles and functions of national patent offices**. Knowledge generated by the disclosure of information on inventions, contained in patent databases, has been largely heavily under-utilised in the past. Such databases have been called the largest systematic sources of technical information available and substantial efforts are now being made to remedy their under-utilisation. Patent offices are changing their roles from being repositories of information, to active marketing. In addition, the European Patent Office and several national patent offices have major programmes to increase knowledge and awareness of the databases, and are adopting a more pro-active role in the patent process.
- **Specific public measures to assist companies** (especially SMEs) in acquiring IPRs. Governments have instituted programmes of awareness of the important role of IPRs, sometimes relying on national patent offices.

Introduction

The purpose of this paper is to identify a set of general trends in the field of intellectual property rights (ipr) activities and innovation, in which context the information contained in the 'Trend Chart' database can be viewed. The present paper specifically covers information reported by correspondents over the period December 1999 – June 2000. This framework of trends should continue to be valuable for subsequent periods. Bearing this in mind, it is clear that reports will not cover every trend for every country over such a short period. Also, reports will not fit neatly into each category of the framework. To emphasise these points, Table 1 matches trends against countries and identifies reporting examples for the current period. Most cells are empty, as changes in this field are neither rapid nor even over time. It should also be noted that this framework contains only information about the relationship between innovation policies and ipr and especially about policies that modify ipr conditions. Other topical ipr issues (such as the issue of parallel imports/international exhaustion of rights) are not addressed.

From a public policy viewpoint, it has been increasingly recognised that intellectual property rights are an essential feature of a successful, innovative economy. This is seen in the general policy area. In the European Union, particular impetus was given by the Green Paper on Innovation (1995) and the subsequent First Action Plan for Innovation in Europe (1996), which stressed the importance of ipr to innovation and competitiveness and prioritised several areas for policy action. Policies have also been addressed towards specific sectors or problem areas, such as genetic engineering and computer software.

Therefore the clearest single trend that might be detected in this field is recognition that intellectual property rights are an essential and integral part of innovative and competitive economies. There has been a resulting movement of the field of intellectual property rights from being a rather specialised and often obscure legal discipline, even within companies, into the mainstream of innovation policy. In the modern knowledge-driven economy, research results and other intangible assets are often crucial to the fortunes of major business sectors and the emergence of new companies and sectors, often in the most technology-dependent and fast-growing markets.

It is necessary to remind ourselves of the purpose of intellectual property rights. Contrary to the often expressed view of inventors and others, IPRs are not 'moral' measures to ensure that hard work or inspiration is rewarded. From a public policy viewpoint they are a means of encouraging innovation, and have always been so. In order to encourage innovative activities, certain legally enforceable powers are given to inventors to enable them to appropriate a proportion of the benefits which accrue to the community as a result of their efforts. Patents allow the exclusion of non-owners from imitation without permission of the owner for a specified period, which would reduce the benefits accruing to the owner. For the economy, the benefits of induced innovative activities must outweigh the economic and social costs of this temporary monopoly power (artificially high prices, reduced production volumes, etc.). The

community defines the terms of this trade-off, and much of the substance of this report is concerned with changes in these terms in response to the emerging new economy.

Several factors have produced this new focus on intellectual property. In addition to the long established sectors with continuing heavy dependence upon ip (including the pharmaceuticals and mechanical engineering industries), new industries are coming into being (see section below), with new needs for protection. The increasing ease of imitation and copying of designs or of creative performance recordings implies a need for stronger protection for owners. Countries which perceive their competitive advantage to originate from technological advance wish to retain their advantage for as long a period as possible. World Trade Organisation rules require members to provide effective protection for owners of intellectual property.

Framework for Analysis

The general trends identified are:

1. An increasing awareness that IPRs are essential to a successful and competitive economy.
2. The strengthening of IPRs as a means of generating innovation.
3. The international harmonization of IP legislation.
4. The introduction of new technologies and need to include them within IP frameworks.
5. The importance of public sector institutions in generating intellectual property, and the need to revise rules governing their ownership.
6. The changing roles and functions of national patent offices.
7. Specific public measures to assist companies (especially SMEs) in acquiring IPRs.

These are explained more fully below.

1. An increasing awareness that IPRs are essential to a successful and competitive economy.

The attention of policy makers and academic researchers has in recent years focused on the concept of 'national systems of innovation'. The operation of different institutions and policies contributing to innovative performance has been analysed within the context of an interactive system in which the interfaces between these components has been recognised to be important. For example the efficiency of 'technology transfer' between public sector and private sector organisations has been of particular concern (see section below) in Europe, where it is felt that better use could be made of the scientific excellence of public research institutions: the so-called 'European Paradox'. Intellectual property rights frameworks are an essential element of these systems. They should provide a reasonably predictable and stable background

in which organisations can justify investments in research and development and other creative activities, confident that they will be able to appropriate sufficient returns in the market without unfair competition from imitators who have not borne the initial costs of research. The transition economies of Eastern Europe, together with the economies of the Far East, are implementing programmes of internal ipr regulation in order to gain access to the world trading system and to encourage domestic industries which rely on IPRs (e.g. Bulgaria, Latvia, Romania and Slovenia country reports).

2. The strengthening of IPRs as a means of generating innovation.

Overall, strong IPRs are now associated with innovation policies. The dominant assumption of policy-makers at present is that strengthened IPRs will lead to greater innovative activity and consequent benefits. However this is not uncontroversial, and there are increasing signs that IPRs, as a result of their increasing prominence in policy debates, are also becoming the focus of more critical attention, from a variety of sources.

Various means are being used to strengthen IP protection and thus encourage innovation:

2.1 Lowering the costs of acquiring and maintaining patents

Patents are expensive to apply for, to maintain, and to defend. The easiest change to make here is to reduce the application fees, as the European Patent Office began to do in 1997. The UK has eliminated the application fee and is also reducing the costs of its services overall by 20%, (UK_25). However, the other costs of acquiring and enforcing a patent, such as those of retaining a patent attorney make these reductions rather less substantial overall. A specifically EU problem is due to the high costs of multiple patents, including a long-standing problem, that of languages and the translations required in Europe, which will be referred to below.

2.2 Increasing the coverage of IPRs

The USA has gone much further than European countries in strengthening its protection, by making it easier to gain rights, by extending the coverage of patents, and also by a shifting balance in legal judgements towards the owners of rights. For example the coverage of US patents has been extended to cover business methods and algorithms, and also software. The lack of 'prior art' information has probable led in the USA to the granting of large numbers of potentially invalid patents in these fields, especially concerning business methods on the internet. These may be useful to start-up companies for raising finance, but have produced such a large number of weak and wide-ranging patents that they may eventually negate the importance of patents in this field.

2.3 New measures

There has been much discussion in Europe over the possible introduction of a grace period, along US lines, to give more time to inventors after publication of details of their inventions. Though the grace period is more easily part of the US system ('first

to invent'), there is a strong argument that the secrecy implied by the 'first to file' system in other countries may be a constraint on the free movement of information and technical details. Incorporation of a grace period could alleviate this problem, but this has not been possible so far.

It is in some cases possible to introduce particular measures to address particular problems. For example the introduction of Supplementary Protection Certificates benefited the pharmaceuticals and plant-breeding industries. In future other new measures may include extension of 'petty patents' to more European countries

2.4 Costs of litigation

A major source of dissatisfaction of patent system users has been the high cost of enforcement. In particular this is a European criticism of the USA, and at present little progress has been made on this aspect. One possible advance here would be the possibility of insuring against enforcement costs which is at present little used. This would be particularly useful for small and medium sized enterprises (SMEs) which may not be able to withstand the financial power of large companies over a prolonged and expensive legal action.

2.5 Stronger enforcement measures

Many countries are assisting industries in identifying and prosecuting IPR infringements. The largest scale, and best known of these are the music industry's 'piracy' problem due to the ease of copying recorded music and video performances, and software applications and computer games. Ireland, for example, is addressing the problem of software piracy, in part as a result of having a strong domestic software production industry (Ireland country report).

2.6 Countervailing trends.

While the dominant trend has been towards stronger IPRs (especially patents), there are now signs of a growing reaction. Some businesses have criticised the extension of patents to software and business methods for their restrictive effect and weak basis. One body of opinion advocates the reduction of these patents' lifetimes to far shorter periods of five years or even less, compared with the standard 20 year lifetime.

Opposition also comes from environmental, moral and ethical standpoints. The most prominent of these concern the debate over patents on the human genome, and over patents on genetically modified organisms. This was in part responsible for the delay of the European Patent Directive (1998).

3. The international harmonization of IP legislation.

The increasingly international nature of trade has led to growing harmonization of IPR frameworks. Two trends are identifiable:

3.1 Global harmonisation.

Though international harmonization has had a very long history, for example the reciprocal recognition of copyrights, the increasingly international character of

international trade, and the formalisation of rules within the World Trade Organisation, has put pressure on members and potential members to institute effective protection of intellectual and industrial property. Most prominent here is the World Intellectual Property Organisation (WIPO). Many countries are introducing measures to harmonize national regulations with international norms (country reports for Greece, Ireland, Latvia, GR_34)

3.2 European harmonization.

It is generally agreed that the structure of the European patent system is far too complex, consisting of three distinct systems;

(i) national patent systems exist in all countries of Europe, and lead to the excessive cost of separate applications to achieve wide coverage, including costs of translations and litigation under each jurisdiction.

(ii) Inventors have the alternative of filing patent applications with the European Patent Office, enabling considerable cost reductions in comparison with serial national applications, but result in a 'bundle of patents' rather than a single European patent. This means has shown a rapid growth since its introduction with the European Patent Convention (1973). This has great flexibility but also complexity and does not achieve the cost reductions which would be possible with a single European patent system.

(iii) The Community Patent Convention (1975) was an attempt to introduce this concept and so reduce European costs to the level experienced in Japan or the USA. However this has been considered unsuccessful. It has still not entered into force because of delays in its ratification. A major explanation for this is dissatisfaction with the terms relating to the languages used for patent applications/grants.

Discussion in the EU centres on the necessity of harmonization for the establishment of a single market and competitiveness with the USA and Japan. However there is a wide range of opinions about how this should be achieved.

The EU has, however been successful in other IPR areas, such as the establishment of a Community Trademark, and a Community Plant Varieties system.

4. The introduction of new technologies and need to include them within IP frameworks.

The history of IPRs has been one of the introduction of new technologies and the incorporation of these into existing rights, or occasionally the institution of new rights to cater for particular needs. In past centuries this has proceeded slowly, but the past decade has seen an apparent acceleration in the rate of technological development,

and in the speed of application of new technologies, that IPR systems have had difficulty in responding in a timely way.

Computer programs and software have been in existence for half a century. Previously protected by copyright, they are now beginning to be covered by patents in the USA. The EU will announce its position on software patenting in late 2000.

New business methods relating to the Internet and World Wide Web are patentable in the USA. The question of copyright of domain names is being addressed in several fora, in particular under the WIPO.

The pharmaceuticals industry has always been dependent upon patenting to recover the huge costs of developing drugs. The possibilities offered by the new biotechnologies in disease prevention, diagnosis and treatment are now causing difficulties. After some delays, the European Directive on the legal protection of biotechnological inventions was adopted in 1998, aiming to harmonise national patent laws. Certain processes and things cannot be patented, such as human cloning, modification of human germ lines, etc. The discovery of gene sequences does not justify patents, but applications of these are eligible. The recent completion of the draft human genome sequence prompted the joint statement by President Clinton and Prime Minister Blair (the sequencing was carried out in US and UK laboratories) which stated that raw fundamental information about the genetic makeup of the human body should be freely available.

5. The importance of public sector institutions in generating intellectual property, and the need to revise rules governing their ownership.

Traditionally, results from publicly funded research have been made publicly available. However, this has changed in recent years. The 'European Paradox', identified in the Innovation Green Paper (1995), pointed out that the strength of EU research is not matched by its exploitation, in comparison with the USA and other economic competitors. Thus the exploitation of IP produced by public institutions or from publicly funded projects is the area of most activity in the EU. National governments and the European Commission have focused on several issues in order to remedy this deficiency:

5.1 Applying pressure to public institutions to exploit their results

General financial incentives have been used to achieve this in several countries, but in the IP field some particular measures are identifiable:

5.1.1 Encourage collaboration between companies and public research institutions.

Some measures attempt to improve the flow of information between potential partners in collaborations. One aspect of this has been the need to provide assistance to individuals and institutions to take part in collaborations, and to have some protection for any IP which they bring to, or produce during, such projects. For example Austria has established TecMa to locate industrial partners and provide financial assistance during patenting (AT_16), and Impulse projects which hope to improve the transfer of technology between universities and companies (AT_19). Germany has instituted a state loan system for inventors to help them gain patents (DE_6). The PROFIT

programme in Spain also pursues exploitation of technological knowledge from the public sector (ES_17).

5.1.2 Revising rules for industrial collaborations.

Several countries have introduced revisions to their public research systems which make public/private collaborations possible or easier, in particular the treatment of ip in universities (e.g. Belgium: BE_18).

5.1.3 Revising rules governing researcher's rights in public research institutions

Revisions are being made in some countries regarding the rights of individual researchers in public institutions, in order to assist in the efficient exploitation of public sector results. For example, Finland is enacting a change in its laws which will give such researchers the same rights as those employed in the private sector (country report, FI_10)

6. The changing roles and functions of national patent offices.

The introduction pointed out that patents involve a trade off between the inventor, who gains a temporary exclusion right over use of the invention, and the community, which gains the benefit of full disclosure of knowledge about the invention. The knowledge generated by this disclosure, contained in patent databases, has been heavily under-utilised in the past, with the exception of a few sectors including pharmaceuticals. These have been called the largest systematic sources of technical information available. Substantial efforts are now being made to remedy the under-utilisation of these. Patent offices are changing their roles from being repositories of information, to active marketing. New communications and computing technologies are making a revolution possible: patent databases are being made available on-line, and search technologies make identification of relevant information far faster and cheaper. For example in Germany, patent databases are being made available in information centres, and subsidies are given for professional advice, searches, etc. (DE_7, 18).

To achieve this greater exploitation of information, a parallel activity is also occurring: programmes to increase the awareness of the availability and nature of the patent databases. The European Patent Office and several national patent offices have major programmes to increase knowledge and awareness of the databases, and are adopting a more pro-active role in the patent process. In particular, SMEs are being targeted as under-users of the information (DE_8).

7. Specific public measures to assist companies (especially SMEs) in acquiring IPRs.

Governments have instituted programmes of awareness of the important role of IPRs, sometimes relying on national patent offices. Financial assistance towards acquiring patents may be given (BE_10, DE_7,8), and is often directed specifically towards SMEs (DE_8), or even individual inventors (DE_6,18, NO_17).

This classification is summarised in Table 1.

Table 2 illustrates where there is a Country Report (CR) or template/datasheet reference (e.g. BE_10) and in addition the first column of references is made available for European Community initiatives.

Annex

Table 1. Framework for Analysis (trends, modality and measures)

TREND	
MODALITY	MEASURE
1. An increasing awareness that IPRs are essential to successful innovation and a competitive economy	
1. Public policies towards IPRs	IPRs as an integral part of the competitive economy agree on EU actions to further IP protection awareness & other policies targeting SMEs and IPRs cheaper, more convenient IPRs institute national IPR framework & institutions support for inventors, SMEs & other companies
2 The strengthening of IPRs as a means of generating innovation.	
1. Strengthening rights of ipr owners	easier to gain patents extending period of patent rights bias of legal judgements towards ip holders
2. Increasing the coverage of IPRs	extension of patent coverage (software, business methods, algorithms) genetic engineering/human genome, etc.
3. Lower costs of gaining IPRs	lower application/maintenance costs EU coverage
4. introduce new measures	petty patents grace period
5. enforcement measures	reduction of piracy
6. But, increasing resistance to results of IPRs from:	environmental groups (GM seeds) moral or ethical standpoint(legitimacy of human genome patents) business viewpoint (costs of gaining IPRs, & litigation, barrier to innovation)
3. International harmonization of IP regulation	
1. global/international harmonization	WTO, WIPO)
2. EU harmonization (European Patent Convention..)	mutual recognition/ EPO or Community Patent
3. but: increasing resistance to concepts and application (Seattle)	
4. The introduction of new technologies and need to include them within IP frameworks.	
1. fitting new technologies into existing frameworks	software patents human genome applications electronic trading and IP
5. The importance of public sector institutions in generating intellectual property, and the need to revise rules governing their ownership.	

1.	pressure for public laboratories/universities, etc to exploit their results for economic (competitiveness) and financial reasons	encouraging collaborations between companies & public institutions rules for industrial/university/public funded research collaboration
2.	new regulations for behaviour of public sector institutions regarding their IP	researchers' rights in universities & public research laboratories
3.	but: fundamental problem of publicly funded research exploited for private benefit.	
4.	revised EU rules on collaboration in EU funded projects	
5.	revised EU rules on competition and collaboration regulations	
6. The changing roles and functions of Patent Offices		
1.	diffusion of knowledge from patent databases	EPO, national and US patent databases: on-line access
2.	increasing awareness of the importance of IPRs - publicity and training	e.g. German PO, UK Patent Office Special emphasis on SMEs
3.	EU integration/recognition	
4.	pro-active role of patent offices	
7. Specific public measures to assist companies (especially SMEs) in acquiring IPRs.		
		promotion, advice & awareness of IPRs and their role SME specific assistance re. IPRs assistance for inventors/scientists to acquire IPRs encouraging acquisition of rights, including financial assistance reduced litigation costs accounting/financial recognition of importance of IPRs (e.g. 'intangibles' on balance sheets, tax compliance costs)

Table 2. Framework for Analysis – showing Country Report and template/datasheet references

(This Table is available as an Excel worksheet for clarity of presentation)

Trend																												
Modality																												
		Measures	EU COMM.	Austria	Belgium	Bulgaria	Estonia	Finland	France	Belgium	Greece	Hungary	Ireland	Italy	Latvia	Liechtenstein	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	UK	
		An increasing awareness that IPRs are essential to successful innovation and a competitive economy																										
		Public policies towards IPRs																										
		IPRs as an integral part of the competitive economy		CR			CR										LU	CR									CR	
		agree on EU actions to further IP protection																										CR
		awareness & other policies targeting SMEs and IPRs		BE					DE																			CR
		cheaper, more convenient IPRs																										CR
		institute national IPR framework & institutions				CR									CR							CR		CR				
		support for inventors, SMEs & other companies								GR				IT					NO						ES			
										_1				28					_17						_1			

Trend																											
Modality																											
		Measures	EU COMM.	Austria	Belgium	Bulgaria	Estonia	Finland	France	Belgium	Greece	Hungary	Ireland	Italy	Latvia	Liechtenstein	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	UK
The strengthening of IPRs as a means of generating innovation.																											
	Strengthening rights of ipr owners																										
	easier to gain patents																			CR							
	extending period of patent rights																										
	bias of legal judgements towards ip holders																										
	Increasing the coverage of IPRs																										
	extension of patent coverage (software, business methods, algorithms)																										
	genetic engineering/human genome, etc.																										
	Lower costs of gaining IPRs																										
	lower application/maintenance costs																			CR							
	EU coverage																			CR							
	introduce new measure																										

Trend			
Modality			
	Measures	EU COMM. Austria Belgium Bulgaria Estonia Finland France Belgium Greece Hungary Ireland Italy Latvia Liechtenstein Luxembourg Netherlands Norway Poland Portugal Romania Slovak Rep. Slovenia Spain Sweden UK	
	EU harmonization (European Patent Convention..)		
	mutual recognition/ EPO or Community Patent		CR
	but: increasing resistance to concepts and application (Seattle)		
The introduction of new technologies and need to include them within IP frameworks.			
	fitting new technologies into existing frameworks		
	software patents		CR, IE_ 6
	human genome applications		
	electronic trading and IP		CR CR

Trend																											
Modality																											
	Measures	EU COMM.	Austria	Belgium	Bulgaria	Estonia	Finland	France	Belgium	Greece	Hungary	Ireland	Italy	Latvia	Liechtenstein	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	UK	
The importance of public sector institutions in generating intellectual property, and the need to revise rules governing their ownership.																											
	pressure for public laboratories/universities, etc to exploit their results for economic (competitiveness) and financial reasons																										
	encouraging collaborations between companies & public institutions		AT	CR,					CR,																		
	rules for industrial/university/public funded research collaboration			BE					FL		DE																
	new regulations for behaviour of public sector institutions regarding their IP																										
	researchers' rights in universities & public research laboratories		BE																								
	but: fundamental problem of publicly funded research exploited for private benefit.																										

Trend

Modality

	Measures	EU COMM.	Austria	Belgium	Bulgaria	Estonia	Finland	France	Belgium	Greece	Hungary	Ireland	Italy	Latvia	Liechtenstein	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	UK
	revised EU rules on collaboration in EU funded projects																									
	revised EU rules on competition and collaboration regulations																									

The changing roles and functions of Patent Offices

diffusion of knowledge from patent databases	BE _13 ,15, 40, 48	CR																								
EPO, national and US patent databases: on-line access									D_ 07											CR						
increasing awareness of the importance of IPRs - publicity and training	BE _05																			CR						
e.g. German PO, UKPO...									DE _7																	
Special emphasis on SMEs									DE _8																	

Trend																										
Modality																										
	Measures	EU COMM.	Austria	Belgium	Bulgaria	Estonia	Finland	France	Belgium	Greece	Hungary	Ireland	Italy	Latvia	Liechtenstein	Luxembourg	Netherlands	Norway	Poland	Portugal	Romania	Slovak Rep.	Slovenia	Spain	Sweden	UK
	EU integration/recognition																									CR
	pro-active role of patent offices																				PT					CR
	Specific public measures to assist companies (especially SMEs) in acquiring IPRs																									
	promotion, advice & awareness of IPRs and their role		BE						D_																	
			_43						08							CR	CR			CR	CR					
	SME specific assistance re. IPRs								D_				CR												CR	
	assistance for inventors/scientists to acquire IPRs								D_																	
									18																	
	encouraging acquisition of rights, including financial assistance		BE																							
			_03																							
			,10,																							
			AT 22,																							
			_16 50						CR				CR													
	reduced litigation costs																									CR

Table 3: Summary presentation of the Measures that contribute to trends and modality

(This table is also available as an Excel worksheet for greater clarity)

TREND

MODALITY

MEASURES																																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
IPRs as an integral part of the competitive economy																																			
agree on EU actions to further IP protection																																			
awareness & other policies targeting SMEs and IPRs																																			
cheaper, more convenient IPRs																																			
institute national IPR framework & institutions																																			
support for inventors, SMEs & other companies																																			
easier to gain patents																																			
extending period of patent rights																																			
bias of legal judgements towards holders																																			
extension of patent coverage (software, business methods, algorithms)																																			
genetic engineering/human genome, etc.																																			
lower application/maintenance costs																																			
EU coverage																																			
new patents																																			
grace period																																			
reduction of piracy																																			
environmental groups (GM seeds)																																			
moral or ethical standpoint/legitimacy of human genome patents)																																			
business viewpoint (costs of gaining IPRs, & litigation, barrier to innovation)																																			
WTO, WIPO)																																			
mutual recognition/ EPO or Community Patent																																			
software patents																																			
human genome applications																																			
electronic trading and IP																																			
encouraging collaborations between companies & public institutions																																			
rules for industrial/university/public funded research collaboration																																			
researchers' rights in universities & public research laboratories																																			
EPO, national and US patent databases: on-line access																																			
e.g. German PO, UKPO ...																																			
Special emphasis on SMEs																																			
promotion, advice & awareness of IPRs and their role																																			
SME specific assistance re. IPRs																																			
assistance for inventors/scientists to acquire IPRs																																			
encouraging acquisition of rights, including financial assistance																																			
reduced litigation costs																																			
accounting/financial recognition of importance of IPRs (e.g. 'intangibles' on balance																																			

TREND

MEASURES

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

(Seattle)

The introduction of new technologies and need to include them within IP frameworks.

fitting new technologies into existing frameworks

✓ ✓ ✓

The importance of public sector institutions in generating intellectual property, and the need to revise rules governing their ownership.

pressure for public laboratories/universities, etc to exploit their results for economic (competitiveness) and financial reasons

✓ ✓

new regulations for behaviour of public sector institutions regarding their IP

✓

but: fundamental problem of publicly funded research exploited for private benefit.

revised EU rules on collaboration in EU funded projects

revised EU rules on competition and collaboration regulations

The changing roles and functions of Patent Offices

Table 4: List of Templates related to IPR

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
Austria	AT_16 Technologiemarketing Austria (TecMa)	1998	TecMa was established to promote commercial applications for intellectual property developed by Austrian scientists. TecMa locates industrial partners, provides financial assistance during the patenting phase and offers consulting services with regard to the exploration of R&D results.		Scientists at universities and research institutions; private inventors
Austria	AT_19 FWF Impulse Projects (1997-2000)	1997	Impulse projects are designed to improve the transfer of knowledge between Austrian universities and industry as well as to stimulate R&D in the business sector. The Federal Ministry of Science and Transport (BMWV) bears the cost of employing a Post-Doc scientist for at least a year. An additional goal is to help young scientists to get in touch with corporate R&D.		Young scientists SMEs.
Belgium	BE_5 PIIE - Office for Industrial Property	???	PIIE delivers various services around the information on patents, trademarks and models. PIIE has the following mission: Favour industrial property protection Promote the interest of enterprises active in Belgium in the field of IPR Administer demands for national, EU and international patents Deliver Belgian patents Diffuse the information related to IPR and notably the technical information contained in patents		Large Companies/Lar ge Industrial Companies Research Institutes SMEs/Industria l SMEs

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			<p>Represent Belgium' position in international bodies dealing with IPR. In the context of innovation support, and beyond the traditional role of administering IPR, important roles of this service are, first, to open access to the sources of technical and strategic information contained in patents, to the large public of economic actors, and second, to conduct awareness-raising activities in the field of IPR.</p>		1 SMEs
Belgium	BE 10 Support for immaterial investment	???	<p>The economic expansion laws, modified by regional decrees, organise the possibility for regional governments to grant subsidies to enterprises that carry out investments in the region. Besides material investments for the running of the actual activity of the company, of particular interest to innovating enterprises is the possibility to obtain subsidies for immaterial investments in relation to future activities of the companies. The types of immaterial investment covered are: -Market studies, studies for the commercialisation of new products -R&D for new products, processes, and the development of prototypes -Acquisition of patents, trademarks, property rights -Investment in quality management Investment for training and education. The rules for the subsidies differ according to the sector of activity,</p>		???

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			the type of financing, and the nature of the enterprise (starter, existing enterprise, enterprise created by a young entrepreneur). Eligible enterprises should have maximum 40 employees (for commercial enterprises), 50 employees (for other enterprises), and 70 employees in some specific cases. The amount of the subsidy is expressed as a percentage of the investment programme costs. An increase in the subsidy is granted if the investment is considered has having important economic impacts on the region. The rate of support varies between 9% (basic rate) and 24% (rate for the starters) of the investment programme. There are some sectorial restrictions for the support, and the intervention can only be granted for investments of a certain size.		
Belgium	BE_18 (VI) University Interfaces (1998-2001)	1998	The Flemish government supports the interface activities of the universities, for the following activities: -Stimulation of co-operation between university and industry - Promotion of the creation of spin-off companies - Valorisation of research results in industry - Dealing with IPR in universities. The Flemish government devotes a yearly budget of 50 Mio BF for this support.		Universities
Finland	FI_10 Technology transfer from universities and	1999	Enhance transfer of technologies from universities and research institutions to the market place; build best		Public Authorities/Org

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
	research organisations (1999-2001)		practices to all Finnish universities and to the university-industry interface; concentrates on identifying, evaluation, commercialisation and licensing of novel innovations.		organisations Universities
Germany	DE_6 Erfinderförderung at the Patentstelle Deutsche Forschung / Inventors aid at the Patent Office German Research	???	The Fraunhofer Patent Office of German Research offers state loans for innovative inventors in order to support them receiving a patent for an invention. The main aim of this measure is to support the commercialisation of patents with a high market potential. The Patent Office also helps to market and sell the new product. Prerequisites are a technical realising ability and a high degree of economic value. Support may also be provided for prototypes and models.		Individuals Researchers SMEs/Industrial SMEs
Germany	DE_7 Patentinformationszentren / Patent Information Centres	???	The program allows SMEs to have access to scientific and technological information that are essential for innovation management in companies. Therefore has been set up a nationwide network of patent-information-centres. The patent-information-centres offer various types of support/subsidies: · Access to original documents and support of the companies' own information search · Copies of patent documents and other papers · Free consultation of patent agents ·		???

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			Lectures on the services of the patent-information-centres (at cost) · Some patent-information-centres are entitled to examine patent applications		
Germany	DE_8 INSTI KMU Patentaktion / INSTI SME patent initiative	1996	The measure has four major goals: □ Reduce barriers in SME with respect to the use of patents as information source and an instrument to protect property rights, and to improve the innovation capability of SME □ Increase the number of qualified patent applications by SME □ Improve the use of patent information by SME □ Improve the conditions at SME for the commercialisation of patents		SMEs/Industrial SMEs
Germany	DE_18 Fraunhofer-Patentstelle für die Deutsche Forschung - PST Fraunhofer Patent Office for German Research	???	The Fraunhofer patent authority is equipped to inform, consult and support inventors in research and development, application for patents and marketing of qualified inventions. The Fraunhofer-Patentstelle offers various types of support/subsidies: · Information about procedures – accompanying invention and licensing · Assessment of inventions · Support in developing and producing prototypes · Search for licensees and negotiating licensing agreements · Supervision of the keeping of contracts · Financial support		Individuals Research Institutes Researchers SMEs/Industrial SMEs
Greece	2-GT_34 Law 2697	1999	By this Law it is adapted the international		Large

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
	"Certify of Locarno's settlement for the International classification of the Industrial Design and Models - Athens, March 31, 1999.		classification for the industrial plans and patterns. The international classification includes: - A catalogue of the categories and sub-categories. - An alphabetic catalogue of the products in which plans and patterns are embodied - Clarifications Countries which adapt the above law compose a Specific Union.		Companies/Large Industrial Companies SMEs/Industrial SMEs
Greece	GR_1 Investment Law - Promotion	1990	The main goals of the new general development law are the attraction of investment activities in industry and tourism, the efficient networking of new incentives for investment in order to create employment, the promotion of a healthy environment for competition and to support convergence of the Greek economy with that of the other EU States. In particular for the case of IPR, the law will support expenses for the creation of a prototype of an invention that has been registered in the Greek patent office, expenses for the international registration of the invention, expenses for the renewal of the international registration for five years (if industrial investment takes place which is more than ten times the level of expenses for the registration).		Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Iceland	IS_2 Committee on Intellectual Property Rights	1998	A temporary committee on intellectual property rights, and more particularly patent protection activity of the Icelandic technological society has been set up. The		Export industry, especially the

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
	Rights		main goals of the committee are twofold: Investigate what the reasons are for very poor results by the nation with regards to innovation measured by number of patents issued per capita. Put forward suggestions for how the patent activity/awareness of individuals, industry and educational and research institutions. The background for this work is very poor results of Icelandic citizens, industry and institutions with regard to number of patents issued per capita. The average number of issued patents have been little less than two per year total per 280,000 inhabitants. This appears to be 10 – 20 times less than how our comparing nations score. As OECD and many others use this measurement (number of patents issued to national inhabitants) at least as one measurement of the R&D activity, the Ministry of Industry and Trade is concerned about this. The first preliminary report of the committee is expected to be released in October/November 1998.		high-tech sector. R&D institutions and higher educational institutions
Ireland	IE_6 Protection of Copyright - Copyright Bill	Not yet in operation	To regularise the protection and licensing of IPRs in software and other copyright material on the Internet and other media.		Internet-based companies and individual authors
Italy	IT_28 Decree 3 December 1999 concerning the	1999	The Decree specifies both the conditions of admission and the general rules envisaged by Article 13, Comma		SMEs/Industrial SMEs

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
	definition of both the conditions of admission and the general rules for the administration of the Guarantee Fund for SMEs ex art. 2, comma 100, letter a), of Law 23 December 1996, no. 662 (purchasing of patents, licences and technical know how)		2 of the Decree issued by the Ministry of Industry together with the Ministry of Treasury no. 248 31 May 1999 for the administration of the Guarantee Fund for SMEs ex art. 2, comma 100, letter a), of Law 23 December 1996, no. 662. The Fund can cover the expenditure linked to the technology transfer activities through the purchasing of patents, licences and technical know how.		1 SMEs
Luxembourg	LU_3 Technology Watch Centre	1994	The CVT started its activities in 1994 as a pilot project under the initiative of the Intellectual Property Division of the Ministry of Economy and in close collaboration with the European Patent Office. In 1996, the public research centre Henri-Tudor established the CVT as one of its departments. The CVT's main objectives are increasing awareness of national and regional companies to the growing importance of industrial information and assistance in setting up their information management process. The CVT assist national and regional companies in searching, gathering, treating, analysing and managing scientific, technical and technico-economical information.		Large Companies/Large Industrial Companies SMEs/Industrial SMEs

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
Norway	NO_17 Assistance – Applications for Patents in Norway and Abroad – In Development/Prototype	???	The objective of the measure is to facilitate and encourage independent inventors and SMEs in applying for patent in Norway and/or abroad (as well as assistance in development/prototype).		Individuals Large Companies/Large Industrial Companies SMEs/Industrial SMEs
Spain	ES_1 CDTI Financial Support	1978	The ‘Centro para el Desarrollo Tecnológico Industrial’ (CDTI) (Centre for the Development of Industrial Technology) is a Public Business Institution dependent on the Spanish Ministry of Industry and Energy that promotes innovation and technological development achieved by Spanish companies. Since 1978 CDTI has as its purpose to encourage industry competition in Spain by developing the following activities: · Technical-economical assessing and funding of R&D projects developed by companies · Providing support for Spanish involvement in international R&D programmes · Promoting international technology transfer and providing support to technology innovation. Due to its legal person condition, CDTI is ruled by private law in its relationships with third parties. This puts CDTI in a position to offer fast activity and flexibility in its support services for the development of business R&D projects, exploiting		Large Companies/Large Industrial Companies SMEs/Industrial SMEs

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			<p>technologies developed by the company at the international level, and offering technological-industrial supplies to national and international scientific and technological organisations. Consequently, CDTI grants companies its own financial aid –and eases access to third parties– for research and development projects both at the national and international level. CDTI also gives support to companies for exploiting, at an international level, technologies developed by them. For this, CDTI Technology Promotion Projects, its outside network of offices and representatives, and the Iberoeka projects. Finally, CDTI manages and supports Spanish companies fulfilment of industrial contracts with a high technological content generated by different national and European organisations such as the European Space Agency (ESA), European Laboratory for Particle Physics (CERN), European Synchrotron (ESRF), Hispasat and Eumetsat. CDTI assesses and finances R&D projects developed by companies – regardless of their activity field and size. The budget for projects financed by CDTI usually ranges from 40 to 250 million pesetas approximately. This amount includes fixed assets (laboratory, pilot plant, etc.) staff working in the project, equipment, and other costs involved. Any Company having the technical capability to develop a Technology Research Project,</p>		

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			<p>Technology Development Project or Technology Innovation Project and the financing capability to cover 30% of the total budget for that project with its own resources, can obtain financial aid granted by CDTI as credits. Financing offered by CDTI consists of interest-free credits, which cover up to 60% of the total budget for the project. CDTI only supports projects that are technically and economically feasible, but it does not require real guarantees for granting these credits. This financing comes from the Centre's own resources, resources of the R&D National Fund and the European Regional Development Fund (ERDF). From 1978 to 1995 CDTI financed projects for a total amount of 450,000 MPtas, with a CDTI contribution of 170,000 MPtas. 57,000 MPtas had been paid back by the end of 1995. The CDTI contribution for the technology development of companies is 9,495 MPtas for the period 1994-1999.</p>		
Spain	ES_19 INFO XXI: The Information Society for all (2000-)	2000	<p>INFO XXI is an strategic initiative o the Spanish Government aimed at implementing Information Society in Spain, in order that its citizens and enterprises can take part in its development and take advantage of its potential to improve social cohesion, quality of life and work and economic growth.</p>		<p>Individuals Public Authorities/Organisations Researchers Students in</p>

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
					upper secondary schools
UK	UK_12 In-house presentations to larger companies to raise awareness amongst businesses		Part of UK Patent Office's marketing strategy Visits delivered by Patent Office marketing executives to companies identified by in-house marketing database and support team. Addresses lack of knowledge of IP in UK companies; in particular loss of competitiveness of UK companies in international markets because of ineffective use of IPR and lack of coherent IP policy.	Awareness and training	larger companies
UK	UK_13 Intermediaries' Workshops		Part of UK Patent Office's marketing strategy Ultimately a development of 1/2-day and one-day training courses for industrial liaison officers in universities, company staff and Business Link personnel and of the public Roadshows which were aimed directly at decision makers in SMEs. The present approach involves training business advisers who act as multipliers in giving advice to companies.	Awareness and training	general business advisers, in particular Business Link staff, solicitors, accountants and bankers but not professional IP consultants such as patent and trade mark agents.
UK	UK_14		Part of UK Patent Office's marketing strategy.	Awareness and	UK

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
	Project with Bournemouth University		Distance learning/awareness package for students	training	undergraduates across many disciplines : science, technology, engineering, law, business, etc.
UK	UK_15 Projects with Association for University Research and Industrial Links (AURIL)		Part of UK Patent Office's marketing strategy. Carries forward previous work with industrial liaison officers (ILOs) in universities (lectures, training courses) at a more strategic level. Three levels: creation of materials to educate/assist ILOs; creation of section for use by AURIL members on Patent Office Website; assessment of IP policies in UK universities leading to the establishment of guidelines	Awareness and training	Industrial liaison officers and others involved in the commercial exploitation of IPR in UK universities
UK	UK_16 Work with PR Company		Part of the UK Patent Office's marketing strategy as set out in its Corporate Plan. The use of a specialised PR company to develop media material and to ensure its effective dissemination	improving the legal and regulatory environment in the UK.	Large Companies & SMEs
UK	UK_17 Central Enquiry Unit (CEU), Internet Website, Publicity Literature		Part of UK Patent Office's marketing strategy. Creation of a centralised service in the Patent Office to give general advice and information on all aspects of IP. Literature was originally unattractive but has been developed to be readable, informative and up to date	Awareness and training	Any enquirer but particularly lone inventors, companies and (for specialised

Country	Instruments	Date	Description (from overview of template/datasheet)	Modality of operation	Targets
			developed to be readable, informative and up to date		information) IP professionals
UK	UK_25 Abolition of patent fees		Three main measures: ? Abolition of the patent application fee; ? Reduction of the costs of Patent Office services overall by 20 per cent; and ? Posting the patent application form on the Internet	Cost reduction	SMEs
UK	UK_33 Reform of the taxation of intellectual property		A Technical Note by the Inland Revenue. To consider the ways in which current tax rules relating to intellectual property maybe reformed, to make them simpler, to embrace all forms of IP and to simplify the arrangements for the taxation of royalty payments	Change in Taxation rules	
UK	UK_37 The Biotechnology Exploitation Platform Challenge (BEP Challenge)		Aims to anchor the benefits of publicly funded bioscience research in the UK. Encourages syndicates of universities, academic institutions and intermediaries with complementary bioscience research to work together and build portfolios of intellectual property. In particular, it aims at securing the necessary skills to: audit existing intellectual property in bioscience departments in academic institutions and identify commercial opportunities by matching portfolios of intellectual property with potential industrial markets	pump priming for organisations providing information and advice in biotech exploitation.	Biotech sector
Slovenia	SL_1 Young Researchers Program		rejuvenate the human capital in S&T, foster innovation and research		Graduates

Extracts from Country Reports, June 2000

AUSTRIA

The protection of intellectual property rights attracted only little attention by Austria's policy-makers in the past. IPRs, as a general rule, belong to the employer, but universities showed in general only little interest in exploiting their research results, exceptions may be institutes with joint-research activities. The only measure with regard to IPR is the TecMa initiative (AT_16) carried out by the Innovation Agency. Its goal is to support scientists applying for a patent and promote the exploitation of their inventions.

BELGIUM

In **Flanders**, the policy approach for science, technology and innovation has been made explicit at the start of the pats legislature, i.e. for the period 1995-1999. The two main strategic axes of the policy are defined as:

1. Upgrading the quality of research at universities;
2. Improving the innovativeness of the business sector: innovation is understood as a phenomenon broader than R&D only, and the role of market and other non-technological factors (such as intellectual property, training, financing, etc.) for the development of innovation, is explicitly acknowledged.

Bringing the relative R&D expenditure in line with EU-average by a net additional influx of 20 billion BEF over the next four years.

Recent decisions of the **Walloon** government show the attention paid in this Region to a higher awareness and a better use of IPR, notably patents. The following measures have been taken in order to stimulate the exploitation of research results by universities:

- since 1998, Walloon Universities and institutes of higher education have received the property of the results of R&D programmes financed by the Walloon government (see BE_45);
- since 1999, the Walloon government reimburses the costs of patenting for universities, for research projects financed by the Region (see BE_45);
- the Region also acts in favour of the reinforcement of the university-industry interfaces with specialised personnel able to advise in matter of IPR and patents (see BE_47).

Similarly, the **Flemish** government also supports the interface activities of the universities, for the following activities (see BE_18):

- Stimulation of co-operation between university and industry;
- Promotion of the creation of spin-off companies;
- Valorisation of research results in industry;
- Dealing with IPR in universities.

In addition, several financial schemes are available to companies wishing to explore patenting possibilities or develop their knowledge of state-of-the-art technologies, using patent databases (see BE_13, BE_15, BE_40, BE_48) or to acquire IP rights (see BE_03, BE_10, BE_22, BE_50). "Soft" support in terms of advice or specific research is also delivered by the technological attachés in every region (see BE_43).

At national level, an effort is made by the federal office of property rights (see BE_05), beyond its traditional role of administering IPR, to develop pro-active awareness-raising campaigns about the role of patents. A more decentralised access to the databases of this office is under discussion at the moment.

FINLAND

Following increasing attention drawn to issues related to IPR, especially in the university sector, the Ministry of Education assigned a committee (the so-called Lindqvist committee) to map the problems and prospects that researchers are facing in this field. The basic recommendation of the committee was that the level of competence in IPR-issues, and exploitation of research results more generally, should be enhanced at the universities and the Academy of Finland. More specifically, a change in the laws governing IPR was recommended, which would essentially give the same rights for researchers and lecturers at the universities and equivalent as those enacted in private sector firms (The Ministry of Education 1998).

In 1999 the Ministry of Education appointed a working group for the implementation of the recommendations provided by the Lindqvist committee. Since then, one concrete measure has already been enacted, relating to the transfer of technologies from universities and research organisations to the market. The focus is on licensing and the management of IPR at the universities (FI 10).

In 1998 an international evaluation was conducted on the promotion of independent inventions and their commercialisation (Zegweld et al. 1998). This evaluation gave the recommendations of the Lindqvist Committee additional support. Among other things, it was recommended that there should be more coherence and networking between the organisations involved in the promotion of inventiveness/innovation - Tekes, Sitra as well as the Academy of Finland - and that inventors and research organisations (including universities) should be given the full responsibility of their inventive activities, including the commercialisation of research results. The costs of these activities should form an integral part of the costs of research. It was also envisioned that supporting organisations, also in the private sector, should have a more important role as providers of high value added services in matters related to IPR.

FRANCE

In 1998, the Ministry of Education and Research started to simplify and harmonise practices between public research organisations and universities. One expert group

has been set up under the Presidency of M. Alain Gallochat to work on the simplification of procedures.

The national operator is the National Institute for Intellectual Property (INPI)(see web site : <http://www.inpi.fr/inpi/> under the supervision of the MEFI. They are in charge of :

- elaborating texts, laws and regulations for intellectual property
- granting of patents
- providing public information in the field of intellectual property.

Every two years the institute organises the INPI's innovation awards to promote SME's which have successfully used patents for business development.

In 1998 the Institute also launched a call for tender to promote collective and innovative actions in order to highlight the competitive advantage of industrial property.

In January 2000, the fees for patent research report went down 50% from € 646 to €323 one of the cheapest in Europe. More than 16800 patents were registered in France in 1999.

GERMANY

Fostering the use of intellectual property rights is addressed in innovation policy issues in various forms. Likewise the patent database is viewed as a useful source of information for innovation activities.

The Fraunhofer Patent Office of German Research (D_18) offers state loans for innovative inventors in order to support them receiving a patent for an innovation. The Patent Office also helps to market and sell the new product. Prerequisites are a technical realising ability and a high degree of economic value. The form of support is presented as a state loan without interest requirements. The loan has to be repaid only in case of revenues. Marketing of the product is carried out by the Patent Office only and in case of success the Office is entitled to receive a quarter of the revenues.

Patent Information Centres (see D_07) allow SMEs to have access to scientific and technological information essential for innovation management in companies. Therefore has been set up a nation-wide network of patent-information-centres. The patent-information-centres offer various types of support/subsidies:

- Access to original documents and support of the companies' own information search
- Copies of patent documents and other papers
- Free consultation of patent agents
- Lectures on the services of the patent-information-centres (at cost)
- Some patent-information-centres are entitled to examine patent applications.

The INSTI SME patent initiative (see D_08) aims at activating SMEs which so far have not submitted any patent applications, but for which the patent system is of value. It offers funding to facilitate a grasp of the patent system and to ease searches and information to demonstrate to SMEs the operational value of patent applications and the patent system.

Similarly, the INSTI-programme is made to stimulate innovation in Germany; participating mainly private INSTI-partners from innovation and patent (patent agents, regional patent-information agencies, information brokers, regional invention agencies, management consultants, agencies for technology, transfer offices in higher education and research institutions), forming a nation-wide office-network allowing SMEs to use expert information from all INSTI-partners.

In addition several initiatives use patents to stimulate technology transfer to SMEs. The Fraunhofer Patent Office for German Research Institutions is equipped to inform, consult and support inventors in research and development, application for patents and marketing of qualified inventions. It offers various types of support/subsidies information about procedures – accompanying invention and licensing, assessment of inventions, support in developing and producing prototypes, search for licensees and negotiating licensing agreements, supervision of the keeping of contracts, and financial support.

In addition, recent policy discussion have covered the usefulness of the so-called “Hochschullehrerprivileg” (the right of professors at university to patent the invention on their one). In increasing number of stakeholders argue that an efficient marketing of university based invention by the university or other public authorities is only possible if it is the duty of the professor to inform the university about inventions made and that the right of using inventions should be transferred to the university. Moreover, some argue that Germany should seek to re-introduce a newness clause which allows publication of inventions made in scientific journals without destroying the ability to apply for a patent later.

Furthermore, several industry managers argue that the German “Arbeitnehmererfindergesetz” (law which guarantees a certain part of the profits from invention to the inventor even if the invention is made on the job) is counterproductive in stimulating inventions in large corporations.

GREECE

IPRs have a similar status as in all EU countries, with the Industrial Property organisation responsible for patent filing and grants. But there is a gap in the mode of intellectual property rights protection and exploitation by higher education and research establishments. Individual organisations have explicit and supportive rules (as in the case of Forth) while others have less clear or less supportive ones. The Technical University of Athens has submitted a draft to be used as reference for intellectual property right protection by the GSRT. This draft has not an official support yet, but only reflects the views of its authors.

During the last period studied law 2697/99 has ratified the Locarno Settlement for the International Classification of the Industrial Design and Models (2-GR 34).

IRELAND

The Copyright and Related Rights Bill 1999 continues its way in the Dail (Irish Parliament). Meanwhile, software piracy, one of the main target areas which the Bill is aimed at addressing, has become an area of even greater controversy. The main software producers, many of whom have Irish-based production plants, have threatened to take Irish company users to court for the illegal use of their products. No offenders have yet been prosecuted.

ITALY

As far as patents are concerned, the gradual process of aligning Italy with the other leading advanced economies, which began a few years ago, has mainly occurred in the mature technology sectors such as textiles, garments, transport and machine tool engineering.

RECENT REGIONAL AND NATIONAL INITIATIVES IN ITALY SUPPORTING PATENTS PURCHASING

VENETO REGION

- Rotation Fund for subcontracting activities (SMEs). *Regional Decree 270/99*
- New initiatives promoted by young entrepreneurs. *Regional Law 57/99*

NATIONAL INITIATIVES

- *Decree 3 December 1999* concerning the definition of both the condition of admission and the general rules for the administration of the Guarantee Fund for SMEs ex art. 2, comma 100, letter a), of Law 23 December 1996, no. 662 (purchasing of patents, licences and technical know how)

LIECHTENSTEIN

Nothing to report

LUXEMBOURG

At the beginning of 1996, the Ministry of Economy, which incorporates the Industrial Property Directorate (which promotes protection, issues national patents and manages national, European and international applications) started a pilot project with the Henri Tudor PRC involving the creation of a technological watch centre whose main objectives are:

- provision of technological and industrial property documents and data bases for consultation purposes;

- awareness of companies (mainly SMEs) to the need for technological watch and intellectual property protection;
- development of strategic information processing and analysis tools (data processing).

The technological watch centre recently became a permanent resource centre of the Henri Tudor PRC and assists companies in reaching strategic decisions which may lead to forms of innovation.

NETHERLANDS

Dutch policy aims at making IPR's (and especially patents) better known as an instrument to help stimulate innovation. The use of patents is advocated not only as a means to protect new inventions, but also as a publicly accessible source of technical knowledge. By implementing a Strategic Plan the Netherlands Office for Industrial Property is actively approaching a specific number of target-groups in order to get them more involved with the patent-system. A recent study commissioned by EZ showed that most Dutch universities hardly have a pro-active strategy for IPR and exploitation. The property rights are with the universities but in cases of industrial interest, very often rights are transferred to the industrial partner. The study concludes that universities could make more use of patents.

EZ has announced increased attention for encouraging IPR policies in universities. Experiences of the Technical University Delft and foreign universities show that patents can be an effective means for encouraging the industrial application of public knowledge. Together with OCW, EZ is currently analysing what policy conclusions can be drawn from these experiences.

With respect to the protection of industrial property, the National Office for Industrial Property has been encouraged to improve its services through:

- An on-line Patent Information System
- Participation in a European network with similar organisations (Message based Industrial property Information Exchange)
- More active marketing strategy and IPR training services
- An SME customer survey to analyse their needs

The conclusion is that while the consciousness of IPRs and their importance is growing, there seems to be no structural and systematic use of the patent system available to companies yet.¹

NORWAY

The Norwegian Patent Board (*Styret for det industrielle rettsvern/Patentstyret*) offers protection for inventions, trademarks and designs and

¹ Letter to Parliament from Junior Minister for Economic Affairs, dd 13 July 1999.

gives information, guidance and training in the area of intellectual and industrial property rights. The annual budget is about 105 million NOK (1997). Norway has so far not become a member of the European Patent Organisation (EPO).

The Patent Board (*Styret for det industrielle rettsvern – Patentstyret*) offers protection for inventions, trademarks and designs and offer information services, guidance and training in the area of industrial property rights. The annual budget is about 105 mill NOK (1997). Norway is still not member of of the European Patent Organisation EPO. Norway has endorsed the WTO-agreement on trade-related aspects of intellectual property rights (TRIPs), but not the European Patent Convention of 1973 (EPC).

It seems that Norwegian Companies does not take full advantage of the protection patents and the registering of trademarks and designs can give. 80 per cent of the patent applications handled by the Norwegian Patent Board is from foreign applicants. The previous government underlined the need to increase the companies' knowledge of intellectual property rights, and to improve the quality of patent applications. In 1999 the Patent Board implemented an information programme targeted towards small enterprises.

In the Government White Paper on Research (St. meld. nr. 39 1998–99) the previous government expressed the need to ensure a more effective commercialisation of university and college R&D. On January 28 2000 it appointed a special commission (“the Bernt Commission”) that is to suggest instruments and regulatory reform that might stimulate to a more active industrial utilisation of university and college research.

The Government signalled that it would consider ending the so-called “faculty exception” (*lærerunntaket*) in the present law on the property rights for invention. This law states that university and college teachers keep full ownership of any invention made while working at their institution. Denmark has already changed a similar law, Sweden and Finland are looking into the matter.

The Science Parks are actively helping university and college researchers patenting, developing and marketing their inventions vis-à-vis industry.

PORTUGAL

In this area there are two aspects which deserve a reference.

The first is the reorganization of INPI, the National Institute for Industrial Property, which has been pursued along the lines set forth in our last report (see PT14). The purpose is to provide INPI with more flexibility and dynamics which may lead to a more pro-active role in the field of industrial property, thereby contributing to an increased awareness and use of industrial property protection.

The second refers to the fact that the measure 2.2. of *POE (Mobilizing new ideas and new entrepreneurs)* has one area of intervention specifically addressed towards supporting projects aimed at promoting the use of industrial property mechanisms. In principle it will include two stands: one regarding the promotion of the use of industrial property instruments by firms, and another focussed on partnerships between INPI and other public and private organizations to diffuse the knowledge about industrial property rights. However the regulation of such area is yet to be published: we do hope to present it in the November report. It should be also

remarked that in the context of the action “stimulating the cooperation between R&D institutions and firms and the exploitation of scientific research results “of IOCTI it is expected to create conditions for promoting the use of industrial property rights by researchers and by research institutions to protect their inventions.

SPAIN

As the European Commission has admitted the so-called “European Paradox”, the Spanish Ministry of Science and Technology has recognised the existence of a gap in the Spanish S-T-E system between public R&D institutions and economic agents in terms of knowledge and technological level really applied to products or processes. Thus the necessity of improving the technology transfer mechanisms and adapting the public R&D system to the productive sector demands has arisen in the IV NP. To cover this necessity, the **PROFIT programme (ES-17)**, included in the **IV NP** as an horizontal programme to support technological innovation, pursues the reinforcement of the exploitation by the productive sector of knowledge and RTD results developed by public research centres and technology centres. Some specific financial aids will be developed in order to foster and push the process of registering patents by companies, with special conditions for SMEs.

SWEDEN

In order to raise the output of publicly funded R&D in terms of patents the Swedish law allows higher education institutions researchers to keep the ownership to patents. This constitutes an exception from the general regulation on patents on ideas developed by employees. This feature has been under debate for some years for several reasons. In 1996, a public committee on *inter alia* this issue came to the conclusion that the regulation was not to be changed. The committee stresses the importance of a strategy for an increased exploitation of inventions and software developed within the higher education institutions.

The issue was raised again in the report from the parliamentary committee on research that was presented in December 1998. The parliamentary committee recommends that a general agreement is concluded, in which higher education institutions teachers’ IPRs are transferred to the employer, i.e. the higher education institutions. The committee also proposes a new formulation of the Higher Education Act that would stipulate that the higher education institutions should engage in taking charge of the IPRs that might stem from any research result.

During the 1990s, Forskarpatent (Patents & Exploitation Offices) was set up at the major universities in Sweden to assist the researchers in the patenting and licensing processes. The Patents & Exploitation Offices supply consulting and training activities in IPR matters, evaluate technology disclosures from higher education institution staff for the commercial possibilities of the disclosures, apply for patents and license them to industry if possible.

UK

In terms of establishing a framework conducive to innovation UK attention is focused on systems for the protection of intellectual property (reducing complexity/costs, improving awareness), the mobilisation of venture and risk capital, and fiscal incentives for the encouragement of innovation. In the latter case, the Government is examining the use of (politically) rather radical new approaches. The Government is sensitive to the role that deregulation and the liberalisation of markets may play in stimulating competitiveness and has introduced some measures to address this objective, particularly in the context of small businesses, with the creation of the new Small Business Service .

The UK Patent Office, alongside other parts of the DTI scrutinise the impact of the Intellectual Property Rights regime on business and its ability to innovate. Previous measures in this area, generally operationalised through the Patent Office, have concentrated improving the dissemination of information and awareness on patenting and its associated issues. A broader example includes the Government's recognition of the importance of establishing appropriate IP handling arrangements in university/industry collaborations. The 1998 Competitiveness White Paper recognised Intellectual Property Rights (IPR) as an area where improved regulation and understanding can contribute to a competitive, innovative economy. To this end the Government has introduced an IPR Action Plan which contains the following major objectives:

- Keep pace with developments in new technologies and the way businesses operate in the knowledge driven economy. Actions:
- agree EC Directives on copyright in the Information Society and stronger protection for software-related inventions,
- introduce a worldwide system for electronic trading in IPR.
- Make Intellectual Property Rights affordable and accessible. Actions:
- review the impact of fees charged by the UK Patent Office (UK_25)
- consult on proposals to reduce the tax compliance costs of IPR transactions (UK_33),
- reform the civil law system for IPR litigation,
- push for an EC patent which is affordable and easy to enforce,
- ensure that EC harmonisation of “second tier” or “petty” patents benefits UK firms, particularly small businesses.
- Ensure rights are accepted and enforced internationally. Actions:
- ratify the international treaties on copyright agreed in the World Intellectual Property Organisation,
- take action against countries that take a soft line on counterfeiting and piracy,
- ensure countries seeking membership of the EU meet their obligations to protect and enforce IPRs,
- press the US to introduce a ‘first to file’ patent system in line with the rest of the world.

- Maximise the return from the knowledge base. Action:
 review how IPRs can be used to maximise the UK gets from publicly-funded research.

The stimulation of innovation via fiscal means (such as R&D tax credits) has long been anathema to successive UK Governments. However, the new Labour Government has departed from this viewpoint with the introduction of fiscal measures designed to stimulate the provision of corporate venture capital (UK_31 – Corporate Venturing Tax Relief) and to ease the financial burden of the protection of intellectual property (UK_33 – Reform of IP taxation).

BULGARIA

The Government envisions its policy to cover also measures for deregulation and liberalisation of the market. A great number of administrative licensing and permission regimes are being abolished. Preparatory work is under way for the implementation of a "single office" servicing of start-up companies, production incentives and business activities which will reduce significantly the time needed for going through the required administrative procedures. Legal framework is also to be improved with a number of new laws which are under preparation or discussed in the parliament, like the Law on high technologies/high tech parks, the Law on electronic signature and protection of electronic data, and the Law on intellectual property.

ESTONIA

Nothing to report

HUNGARY

Nothing to report

LATVIA

In Latvia, intellectual property rights are regulated by:

- The Patent Law (1993)
- The Trademark Law (1993)
- The Law on Industrial Design Protection (1993)
- The Copyright Law (1993) which included provisions for computer programme and data base protection
- The Law on the Protection of Plant Varieties (1993)

In 1992 the Government adapted a decision on the provisional (transitional) schedule for the protection of industrial property rights.

In 1993 Latvia joined the convention Establishing the World Intellectual Property Organisation, re-established its membership of the Paris Union by way of accession to the Stockholm Act of the of the Paris Convention for the Protection of Industrial Property, and acceded to the Patent Co-operation Treaty.

In 1994 the Government signed an agreement with the European Patent Organisation “On the Extension of European Patents to Latvia”. To ensure that industrial property rights are granted and protected, Latvia re-established the National Patents Office in 1992. Later, in 1993, a special institution was established for the purpose of granting rights in the field of plant variety protection. The Law on Amendment to the Latvian Criminal code of 1995 provides for criminal liability in the case of violation of copyright and associated rights.

The preparation of legislative acts for the protection of intellectual property is the responsibility of the Parliament, the Cabinet of Ministers and the European Integration Bureau within the Ministry of Foreign Affairs. The National Patent Office and the Ministry of Culture are responsible for the realisation of these acts

LITHUANIA

Nothing to report

POLAND

Dissemination of information about intellectual property rights and profits which may be gained by owners of such rights,

Poland has a relatively low number of patent applications when comparing with the EU. The main reason are deterring bureaucratic procedures, relatively high fees charged for application and a low number of application paths. Poland does not have access to the RE and RPE procedures which are the main vehicle used in European patent applications. For instance, in Poland, in 1995 only 22,089 patent applications were filed and in Spain (i.e. in a country of a similar potential) 71,251 applications.

However, comparisons of GERD (total R&D expenditure) with the number of patents granted within a given country yields surprisingly good results for Poland. For one patent granted to Polish residents in 1995, GERD amounted to USD 0.967 bn (PPP). The comparable figure for Spain was USD 8.015 bn (PPP) and even more for other EU countries.

At present, policy makers do not realise the value of an efficient patent system to innovation capacity, which could be stimulated by simplification of the patent system (simplification of application and patenting procedures and decreasing or abolition of application fees).

For trademarks and copyrights the situation is more satisfactory. The latest legislation has considerably strengthened copyright protection in Poland and has contributed to curtailing piracy.

The law on protection against unfair competition protects Polish and foreign companies from such activities as:

- attempts to convince the public that the goods or services originate from someone other than the true producer or supplier;
- damaging the company image by providing unchecked information or publishing its trade or technological secrets.

ROMANIA

The *Medium Term Strategy 2000-2004 of the Science and Technology Domain*, of May 2000, is currently the principal Romanian innovation policy document. This document elaborates the innovation policy of Romania for the medium term. The strategy's main objective is to increase the involvement of the science and technology sector in the broader economy. The underlying view is that science and technology are essential elements for economic development, and are the main instruments for sustainable growth and Euro-Atlantic integration.

Main objectives:

- *Improvement of legislation in the R&D domain and of the institutional framework* [revision of the Law on Research in order to adapt to internal and European legislation; adoption of Law on the Researcher's Statutes; assurance and promotion of the procedures and good practices for the identification, protection and exploitation of intellectual and industrial property rights; setting up of the Council for Institutional Evaluation which will ensure the promotion of competition in the R&D, which will be comparable to the European practices; formation of a specialised organ for the elaboration of sectoral strategies, including policies for R&D]

SLOVAKIA

Appropriate technical and legislative conditions have been established for the development of e-commerce. When preparing the legislative environment for e-commerce in the Slovak Republic, attention has to be paid to the analysis of the current legislation from the point of view of taxes, customs duties, financial services, competition, protection of intellectual property, protection of privacy and so forth.

SLOVENIA

Based on the Slovenian Law on Industrial Property, the Slovenian Intellectual Property Office (SIPO) was founded in 1992, as part of the Ministry of Science and Technology. The SIPO is in charge of industrial property, including the protection of patents, industrial designs, trade marks, copyright and related rights, and the collective administration of authorship and is signatory of all important international agreements in the field of intellectual property. In 1997, the SIPO was awarded the ISO 9002 quality certificate after an independent audit.