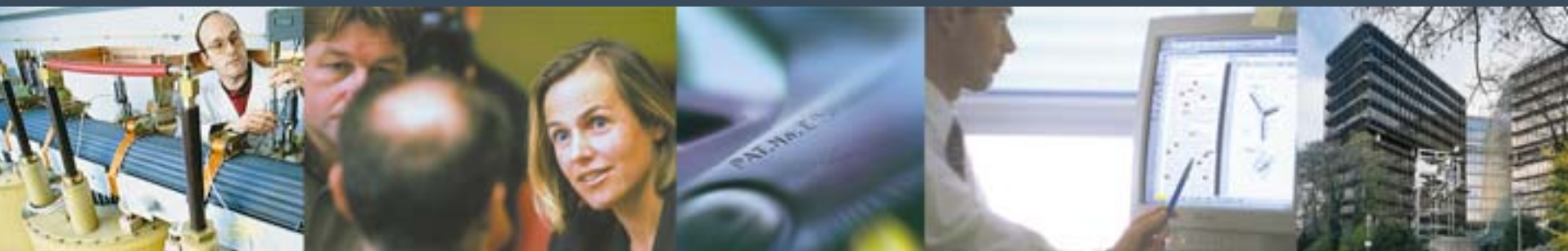
European
Patent Office

Challenges and perspectives for the patent system



Roadmap

I- The European Patent Office today

II- Challenges regarding the grant procedure

III- The EPO and Europe in the global patent landscape

IV- Proposals and strategies

Detailed plan

I.

The European Patent Office

today

Objectives and missions of the EPO

The EPO's mission in line with the EU Lisbon strategy

Mission Statement of the EPO:

"***To support innovation, competitiveness and economic growth for the benefit of the citizens of Europe***"

Lisbon Agenda (March 2000):

" ***To make the EU the most competitive and dynamic knowledge-driven economy by 2010***".

The EPO locations

Munich PschorrHöfe

The Hague

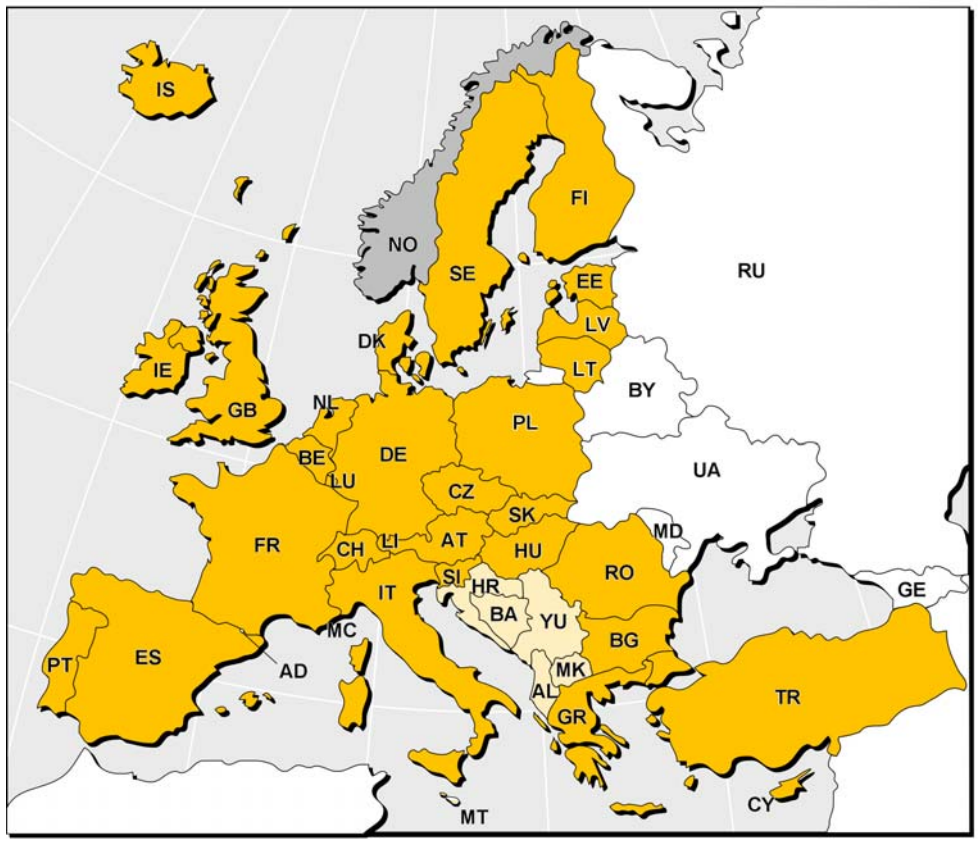
Headquarters Munich Isar building

Brussels Bureau

Vienna

Berlin

EPO Member States



Member states of the European Patent Organisation
AT Austria, BE Belgium, BG Bulgaria, CH Switzerland, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, HU Hungary, IE Ireland, IS Iceland, IT Italy, LI Liechtenstein, LT Lithuania, LU Luxembourg, LV Latvia, MC Monaco, NL Netherlands, PL Poland, PT Portugal, RO Romania, SE Sweden, SI Slovenia, SK Slovakia, TR Turkey

States entitled to join the European Patent Convention (EPC)
NO Norway

States which have been invited to join the EPC
MT Malta

States recognising European patents ("EXTension states")
AL Albania, BA Bosnia-Herzegovina, HR Croatia, MK Former Yugoslav Republic of Macedonia (FYROM), YU Serbia and Montenegro

The EPO: some historical elements

1973

Signature of the European Patent Convention

No Community Patent

EPC ≠ EU Treaties

EPC membership ≠ EU membership

1978

Opening of the European Patent Office

Grant of European patents on the basis of the EPC

Bundle of national patents

Designation of MS in applications ⟷ **European patents are nationally enforceable**

Centralised granting procedure

Single application in one language

but national patents

Main objectives of the European patent system

Technical necessity to centralise procedures → Documentation

Rationalise patent procedure in Europe

Increase quality of patents in a better and more economical way

Need to harmonise procedure and legal aspects

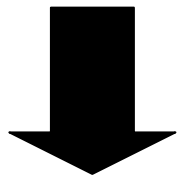
Towards the EU Common Market

Political and economic element in the context of a unified Europe

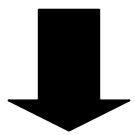
How to integrate patent policies into national/regional innovation policies?

First main function of the EPO:

1- Grant of European patents for the contracting States to the European Patent Convention

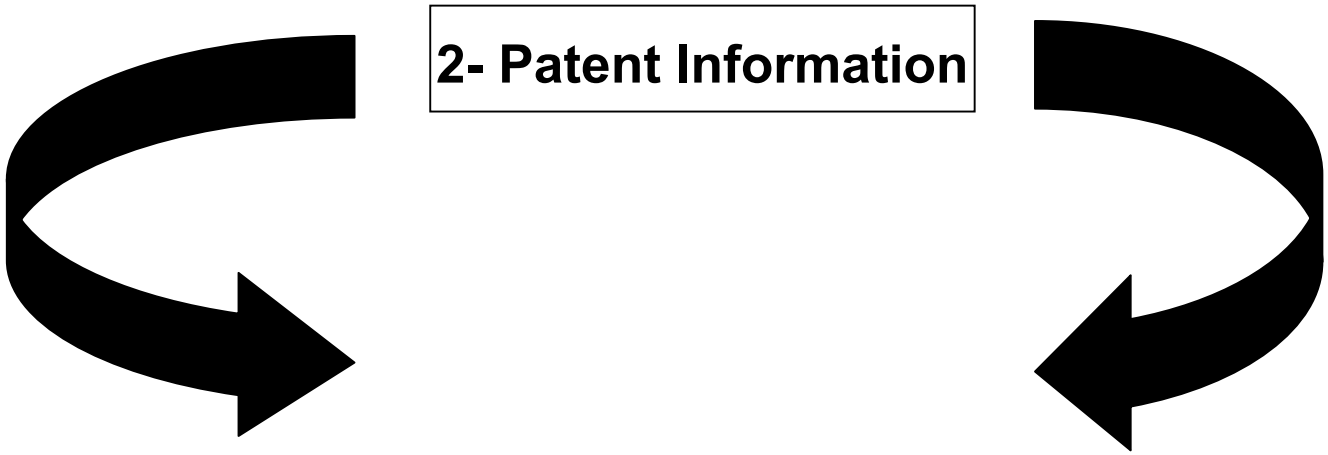


Unified patent grant procedure before a single Office



Regionalisation

Second main function of the EPO AND the National Offices



***Esp@cenet*:**

Acess to over 50 million patent documents from more than 70 countries free of charge via the Internet

***Epoline*:**

EPO's e-service system, allows users to access the procedural information free of charge via the Internet

Third main function of the EPO

3- European and International co-operation within the framework of the European policy and priorities

To promote technology transfer and to co-operate at a global level in harmonising patent practices and procedures

To develop skills and tools which permit moving from patent documentation to knowledge

Fostering relations with and building capacities of our IP partners for sustainable worldwide development

Resources and Size of the EPO

The financial resources of the EPO

Full self-financing autonomy

Fees from patent grant procedures

Renewal fees for patents

2004 income and expenditure account:

1075,3 EUR millions

EPO Membership: in line with the European policy

1977

6 Member States

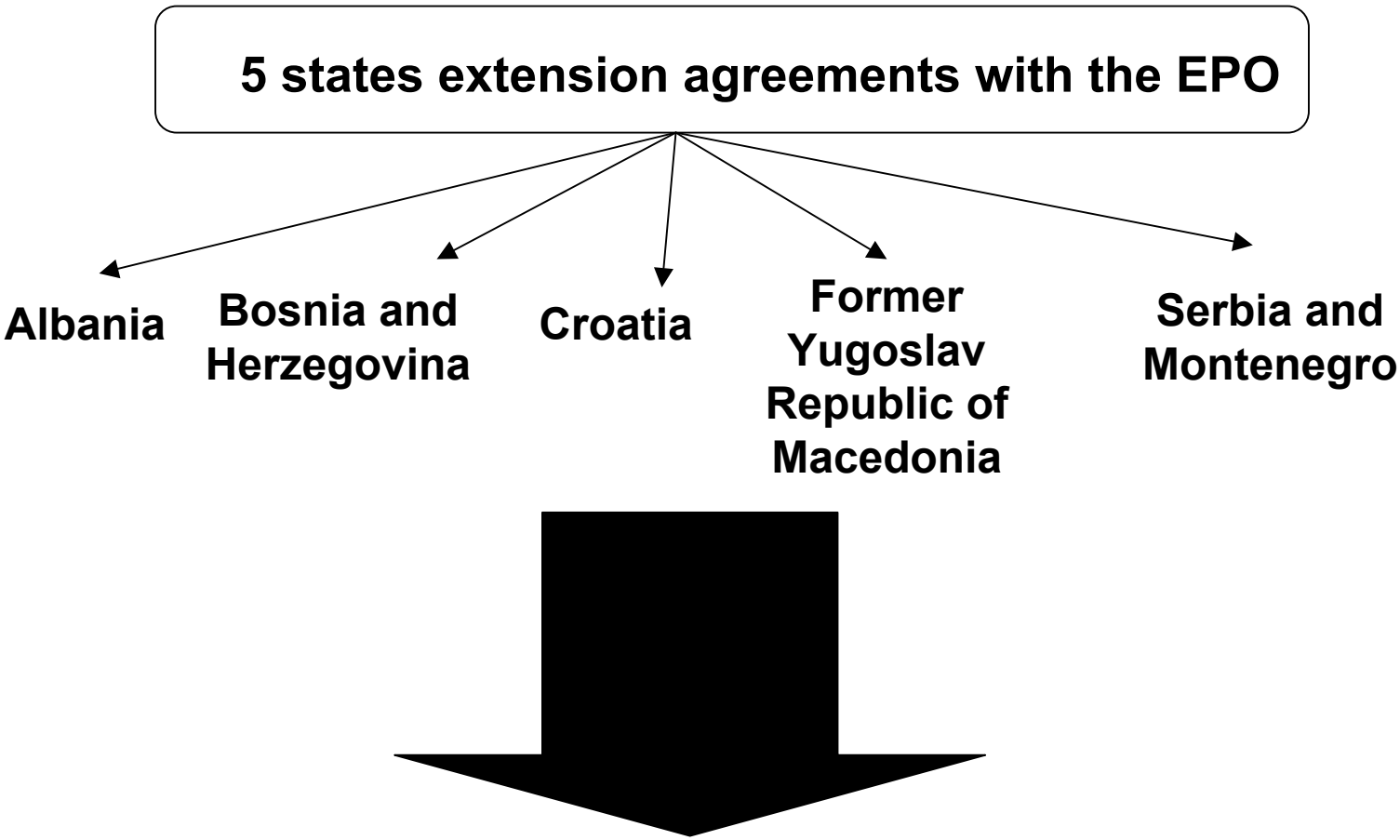
Today

31 Member States

590 millions inhabitants

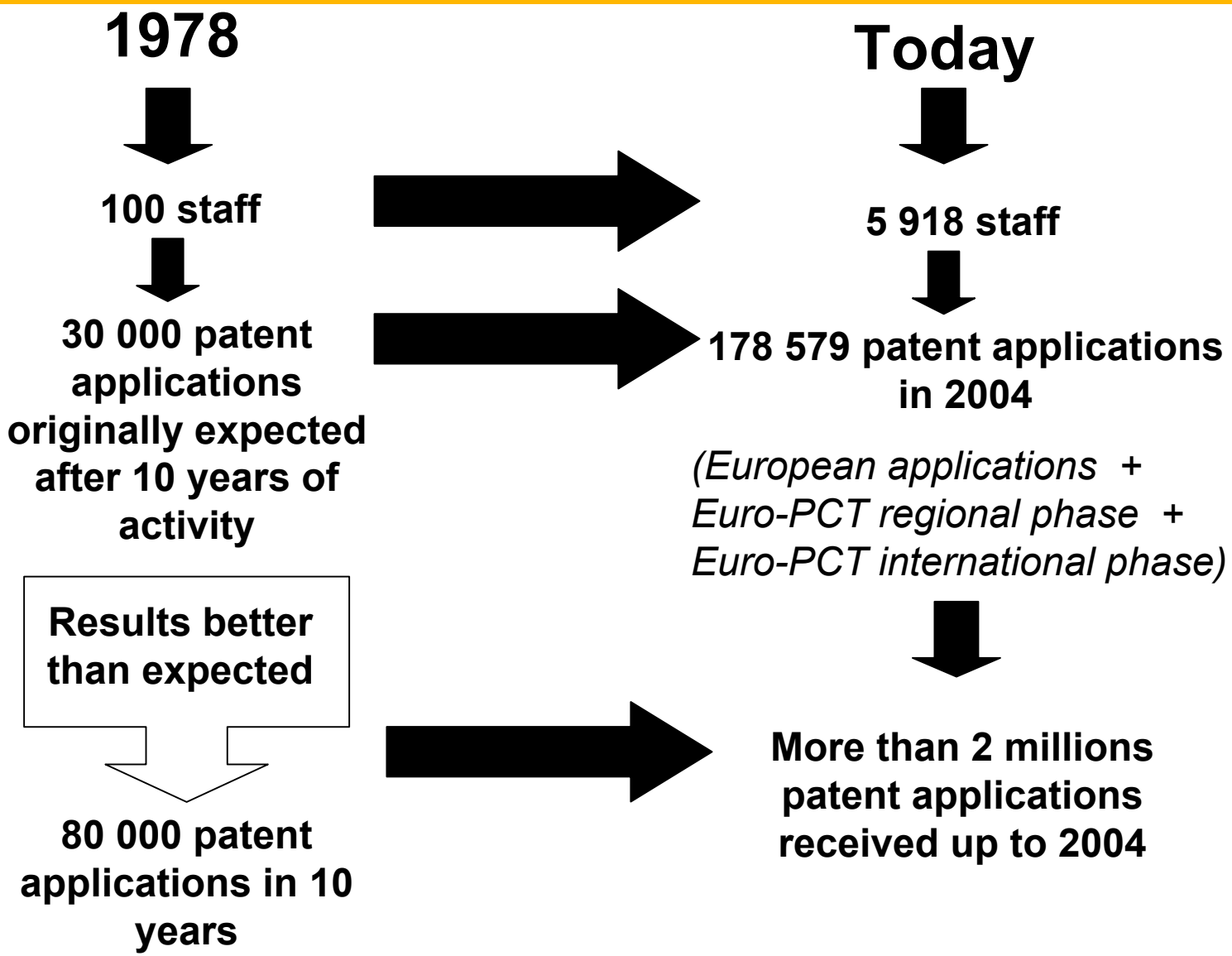
+ Extension Agreements concluded with 5 MS from Eastern and Central Europe

The Extension states

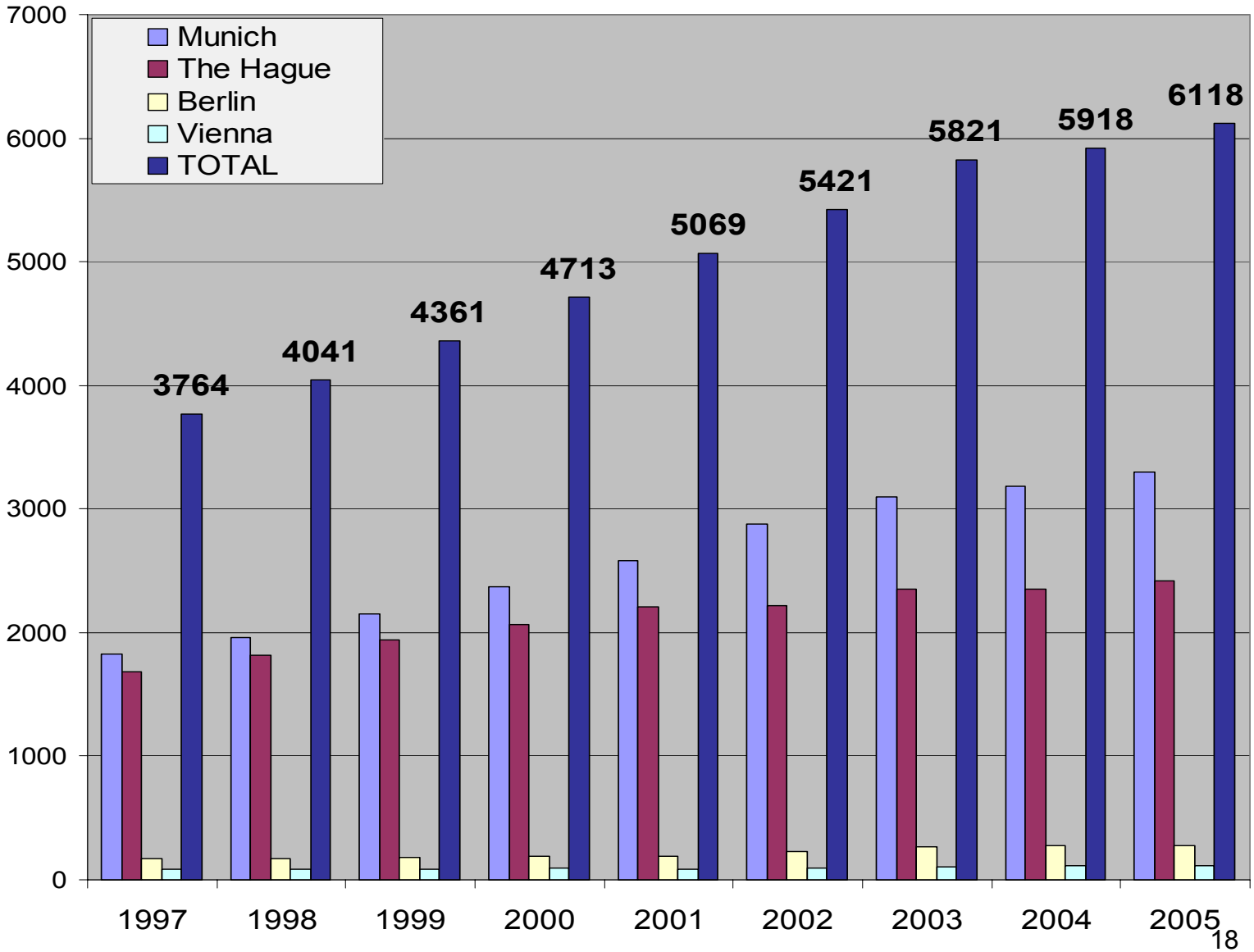


Can be designated as well in a European patent application

EPO staff (1)

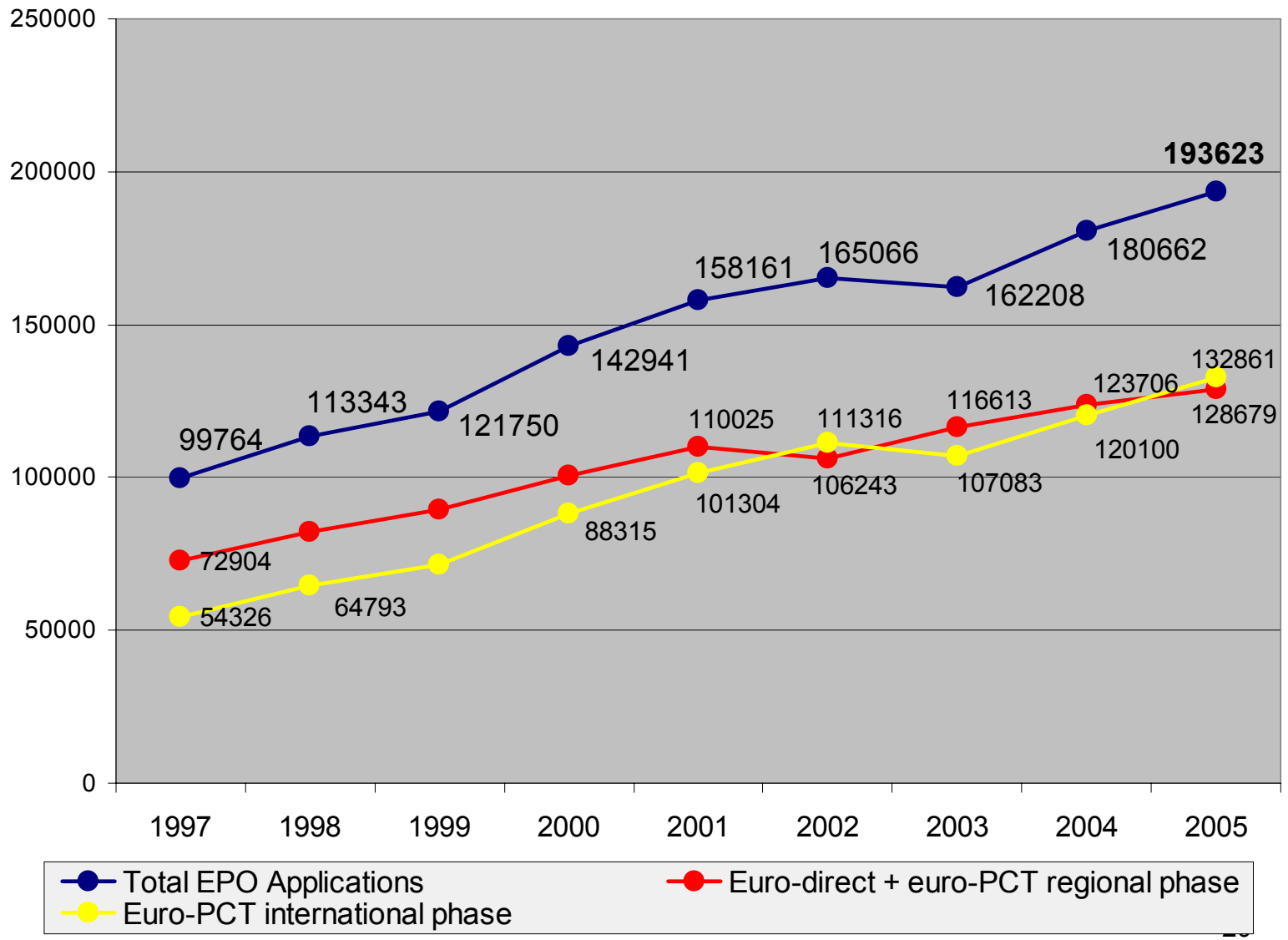

1978
100 staff
30 000 patent applications originally expected after 10 years of activity
Results better than expected
80 000 patent applications in 10 years
Today
5 918 staff
178 579 patent applications in 2004
(European applications + Euro-PCT regional phase + Euro-PCT international phase)
More than 2 millions patent applications received up to 2004

EPO staff (2)

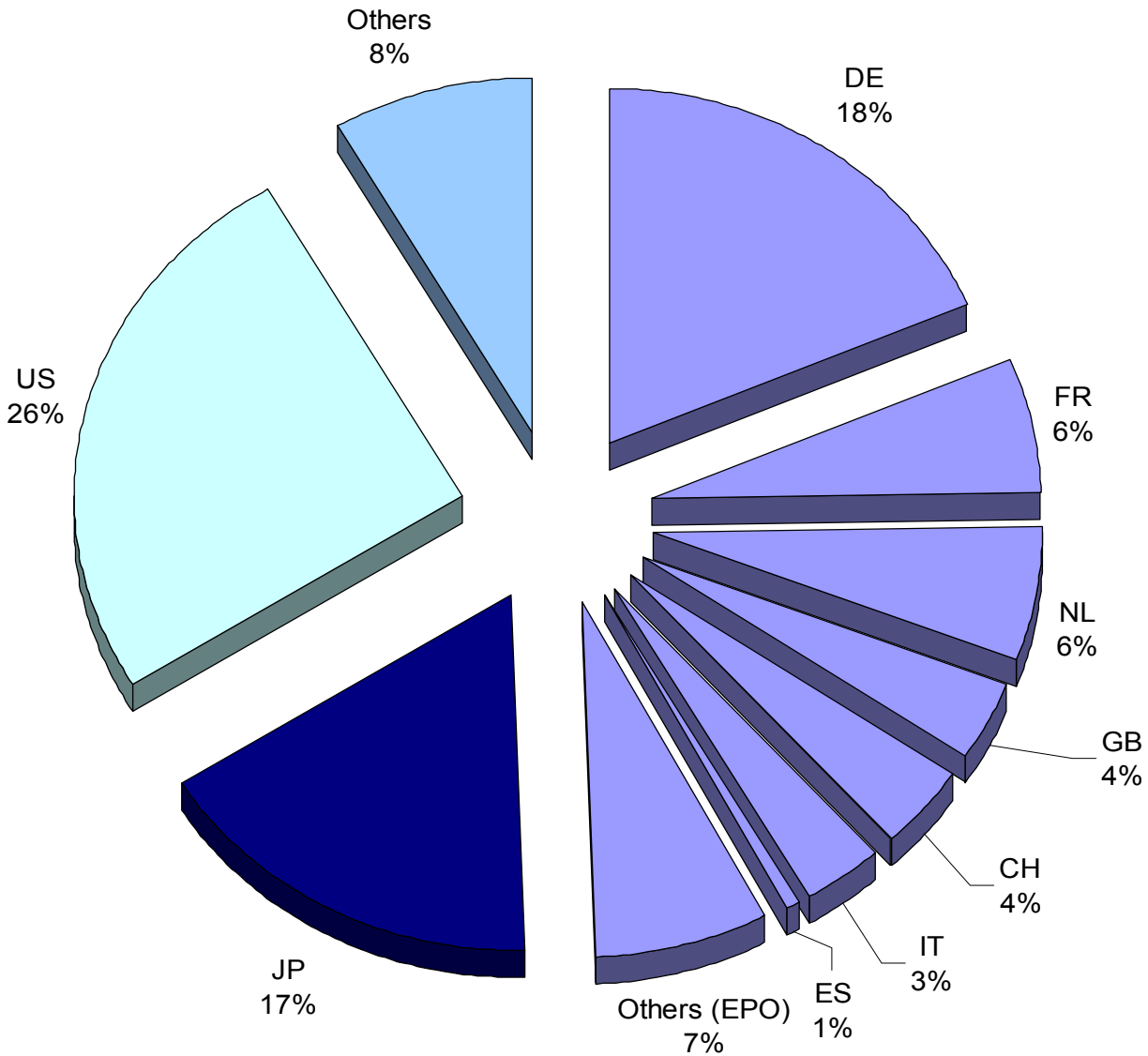

7000
6000
5000
4000
3000
2000
1000
0
Munich
The Hague
Berlin
Vienna
TOTAL
3764
4041
4361
4713
5069
5421
5821
5918
6118
1997
1998
1999
2000
2001
2002
2003
2004
2005

Statistics on European patent applications

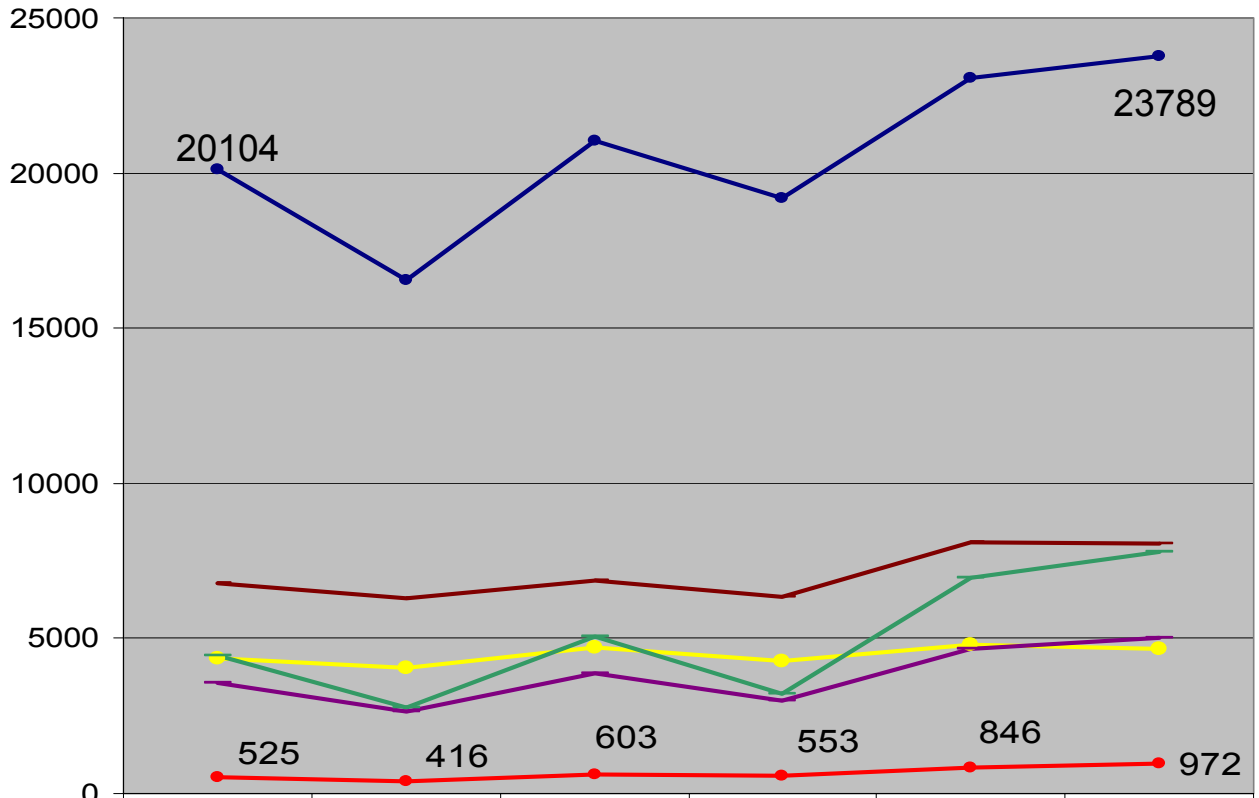
Evolution of European patent applications



Breakdown of EPO applications by residence of applicants 2004

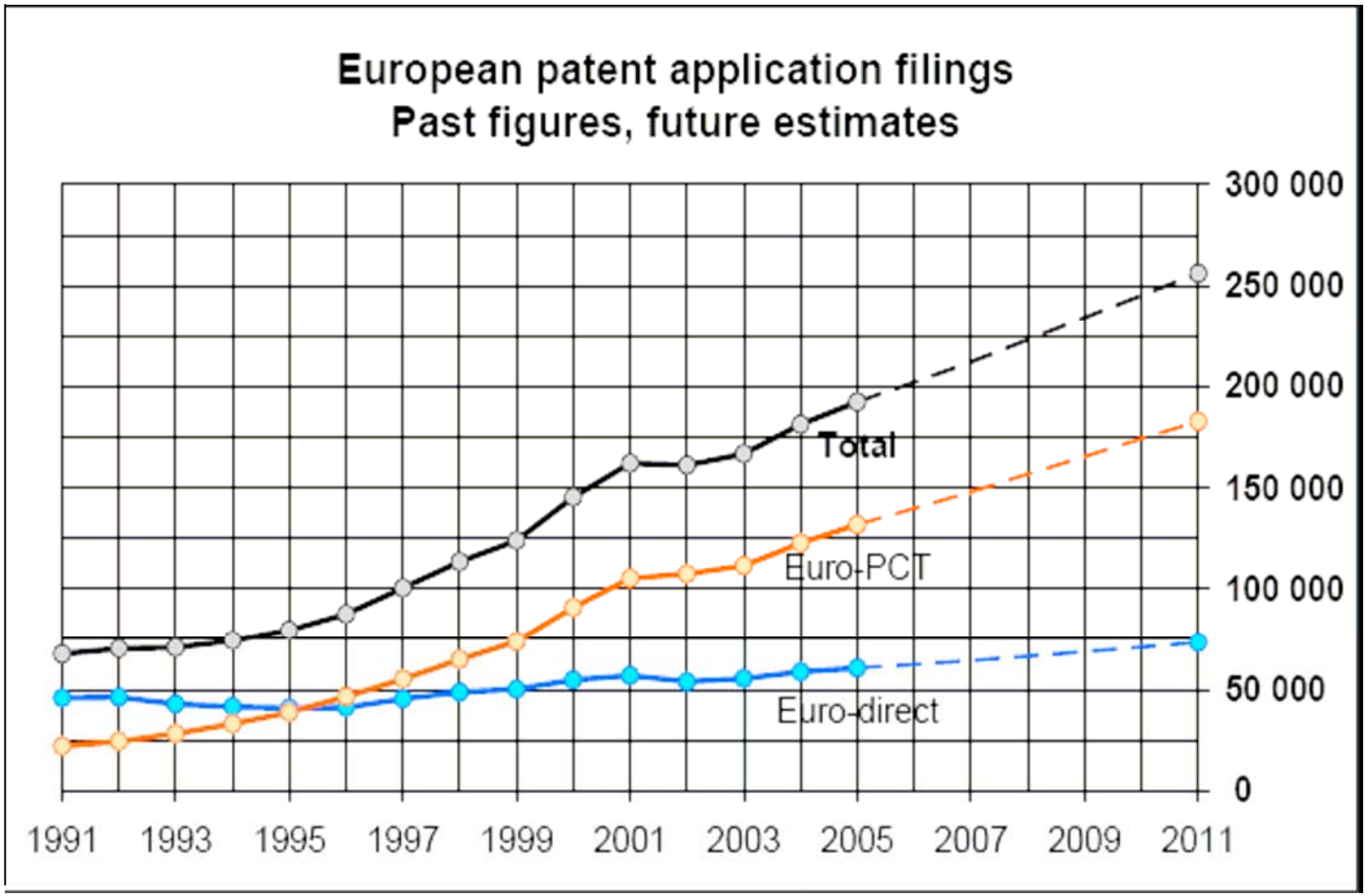


EPO patent applications coming from several member states 2000-2005



	2000	2001	2002	2003	2004	2005
Germany	20104	16536	21039	19178	23044	23789
France	6791	6283	6853	6354	8079	8034
United Kingdom	4359	4050	4709	4271	4791	4649
Netherlands	4435	2769	5054	3196	6974	7799
Switzerland	3561	2647	3882	3001	4663	5027
Spain	525	416	603	553	846	972

Application forecasts



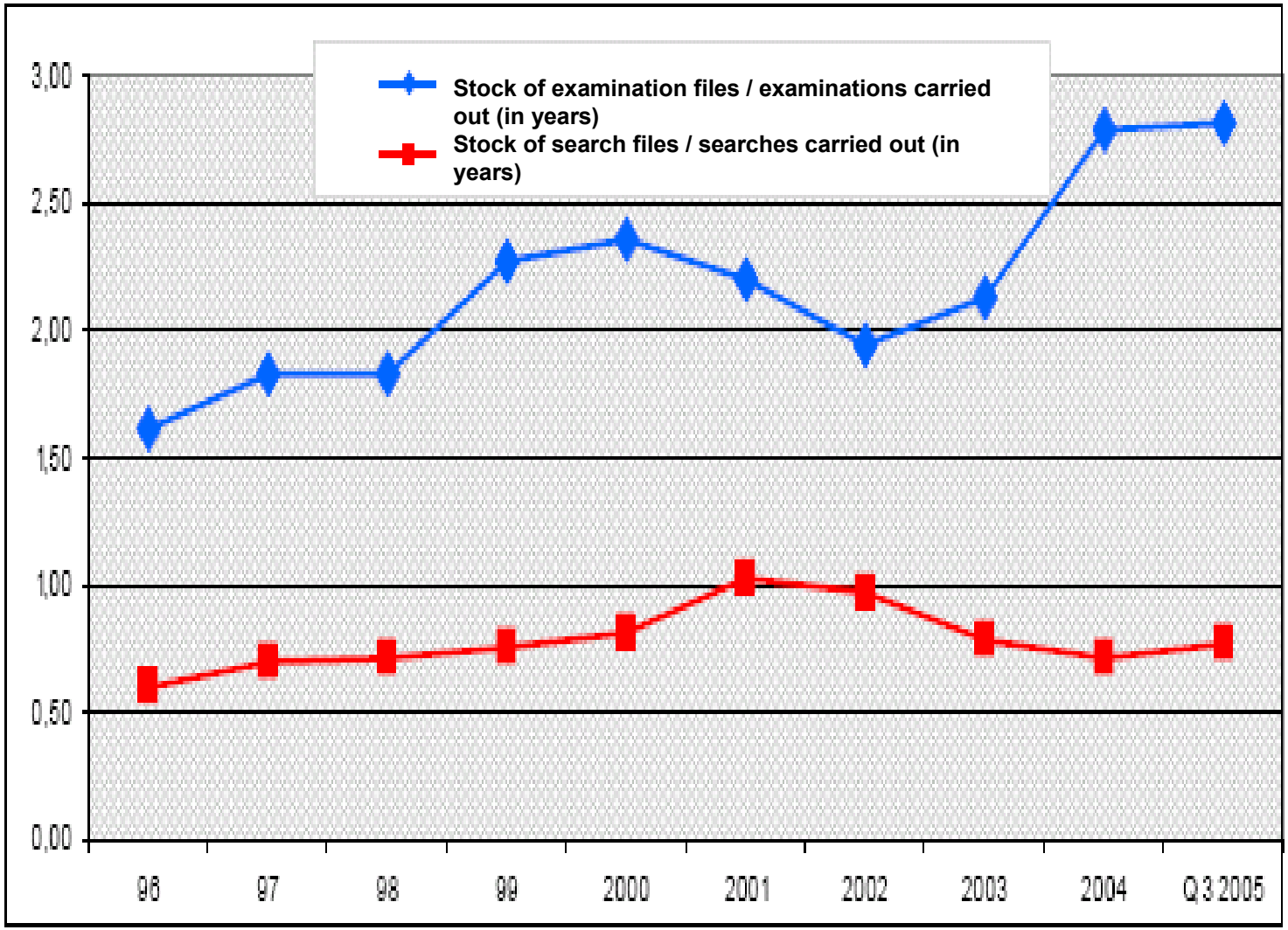
Workload

EPO's Search workload: expected development until 2011:

Filings	2005	2006	2007	2008	2009	2010	2011
CA/40/05	189 000	199 000	208 000	217 000	226 000	235 000	
Actual	193 623						
Scenario		202 000	212 000	223 000	234 000	245 000	256 000
Growth		5.0%	5.0%	5.2%	4.9%	4.7%	4.5%

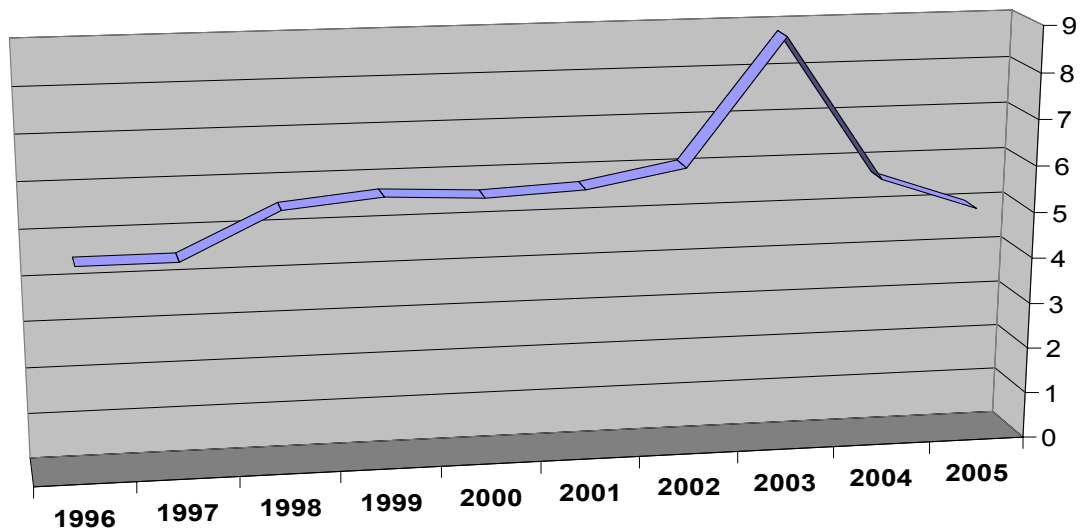
All the analyses based on historical development of filings and on applicant panel survey results suggested a further growth in the number of European Patent filings up until 2011. Considering that the filings in 2005 are higher than foreseen one year ago (CA/40/05), the scenario was revised with more Important previsions.

Stock (Search and examination)

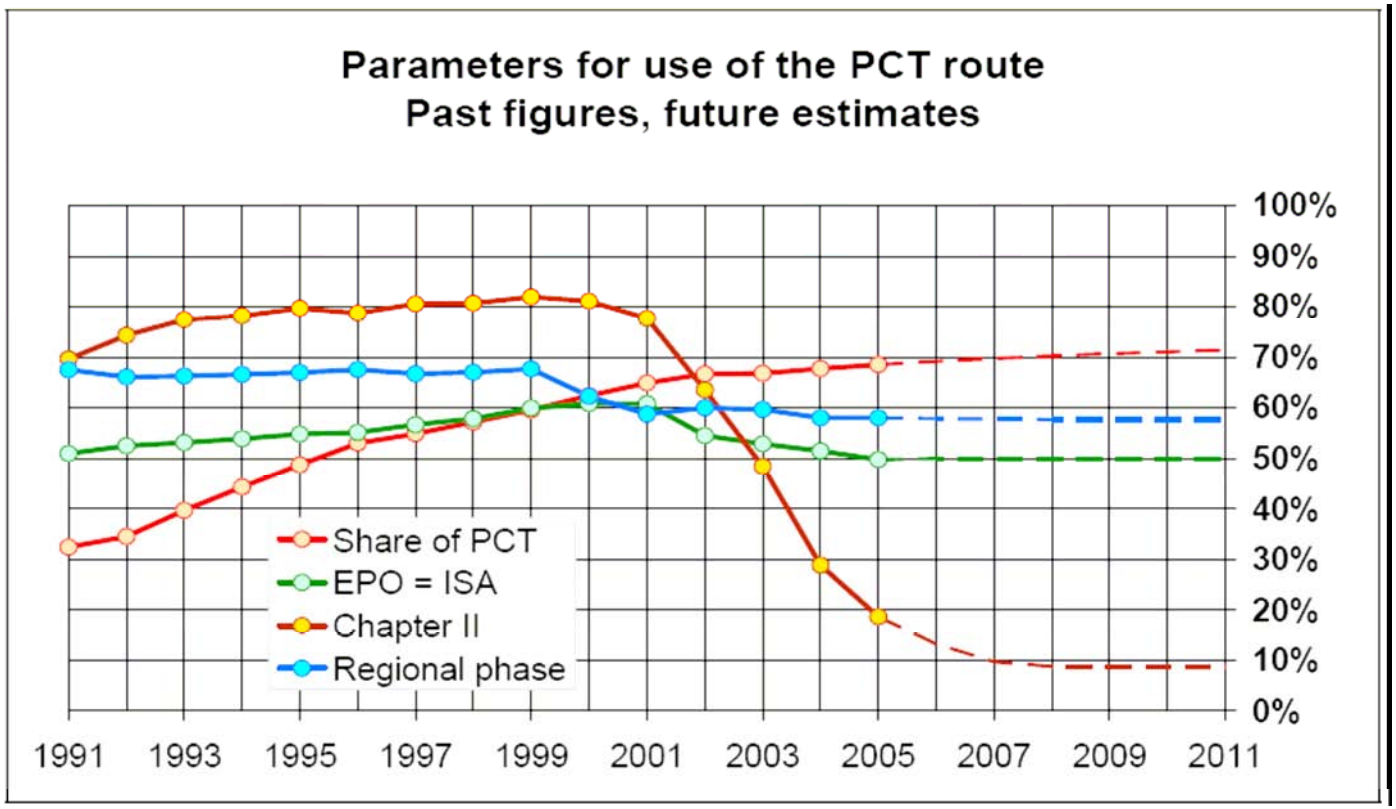


Median processing time in months for search reports (European applications)

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
4,5	4,5	5,5	5,7	5,6	5,7	6,1	8,8	5,7	5,0



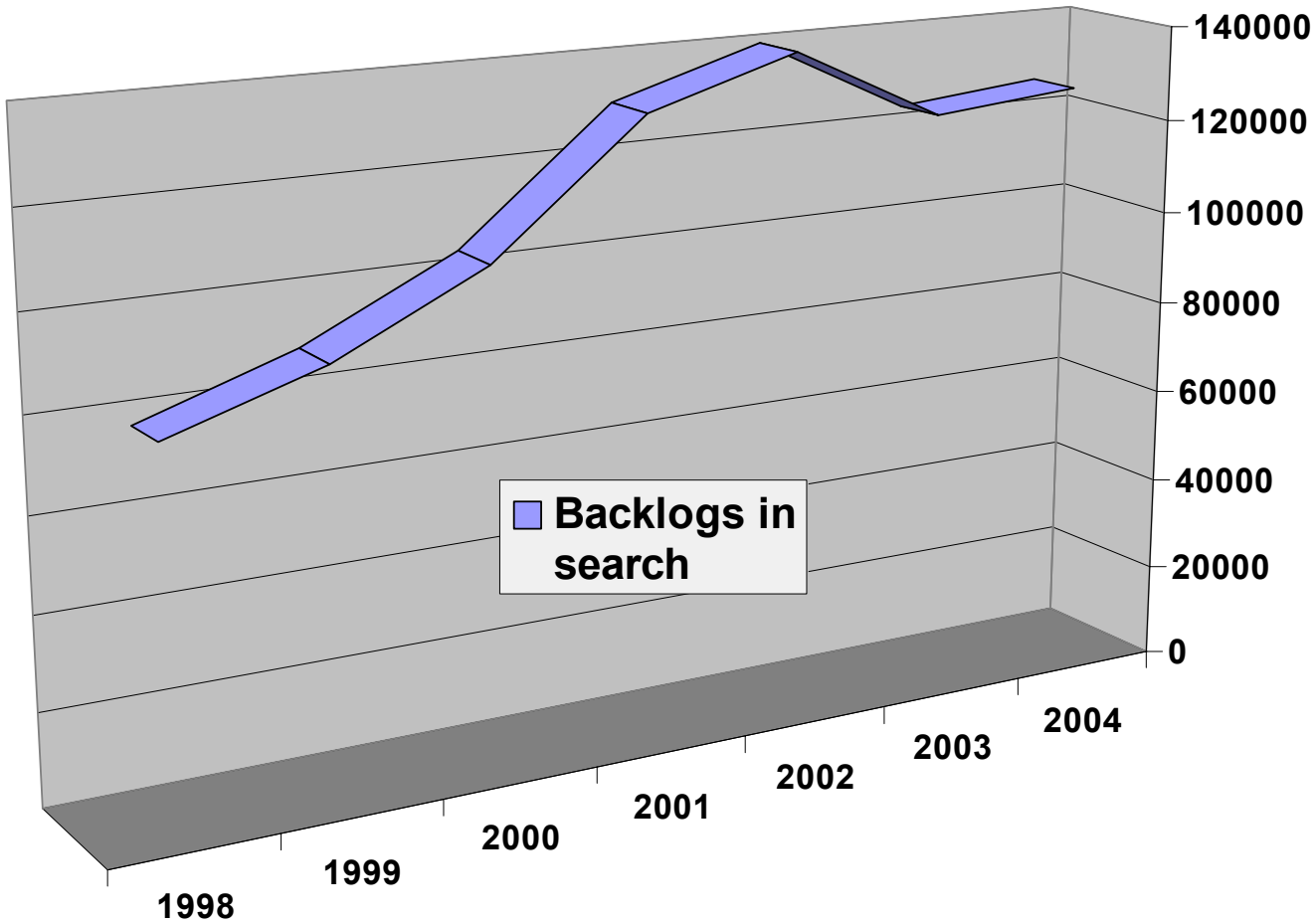
Share of PCT


Parameters for use of the PCT route
Past figures, future estimates
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
Share of PCT
EPO = ISA
Chapter II
Regional phase

Backlogs

- The EPO faces large backlogs due mainly to high growth in international patent applications.
- Today, most applicants have worldwide filing strategies and use the international Patent Cooperation Treaty (PCT). Euro-PCT applications now account for over two thirds of our filings.
- The PCT's tight time limits require the EPO to give priority to international applications. But the EPO's heavy workload is not unique: filings have been flooding in and causing serious backlogs at all major patent offices.

Backlogs



1998	1999	2000	2001	2002	2003	2004
78 017	88 500	104 000	130 500	140 000	124 000	126 800

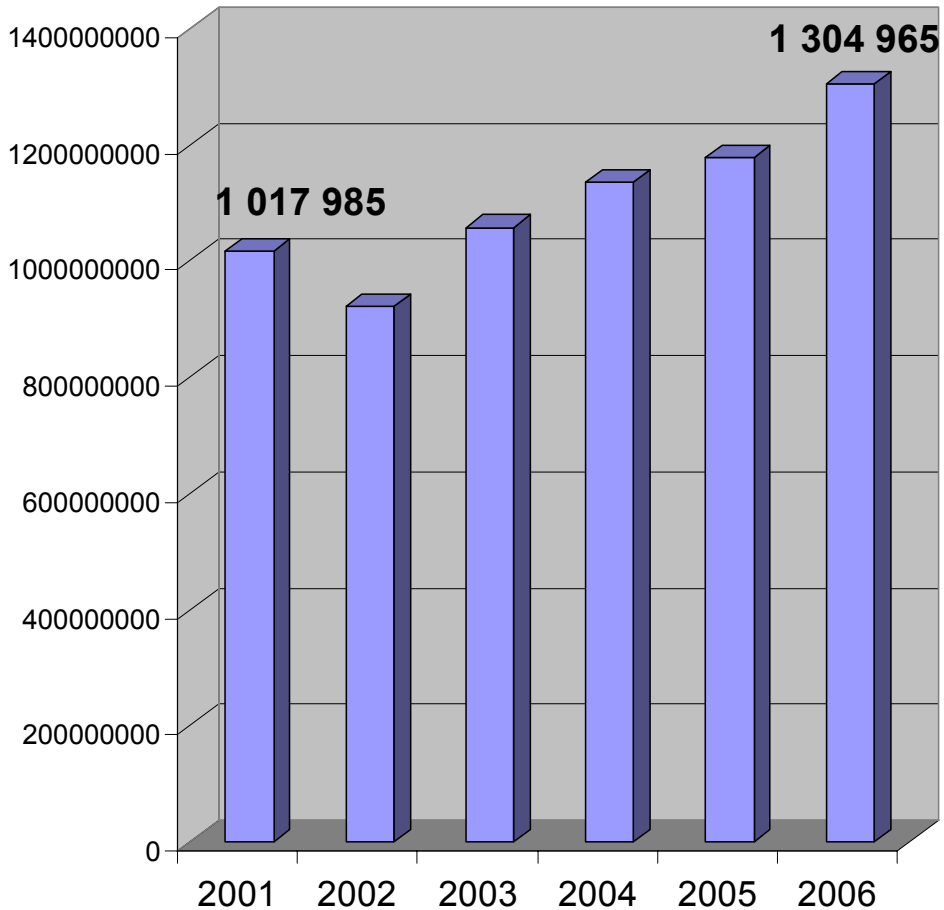
Backlogs

- To clear these backlogs, in October 2002 the EPO implemented a set of measures which has already have an impact.
- The EPO is also making progress in its efforts to reduce European patent grant times, from just under four and a half years at present to the three-year target set at the 1999 Intergovernmental Conference in Paris ("Paris Criteria"). In the first quarter of this year, over 22% of applications were processed within this time limit.

Finances of the EPO

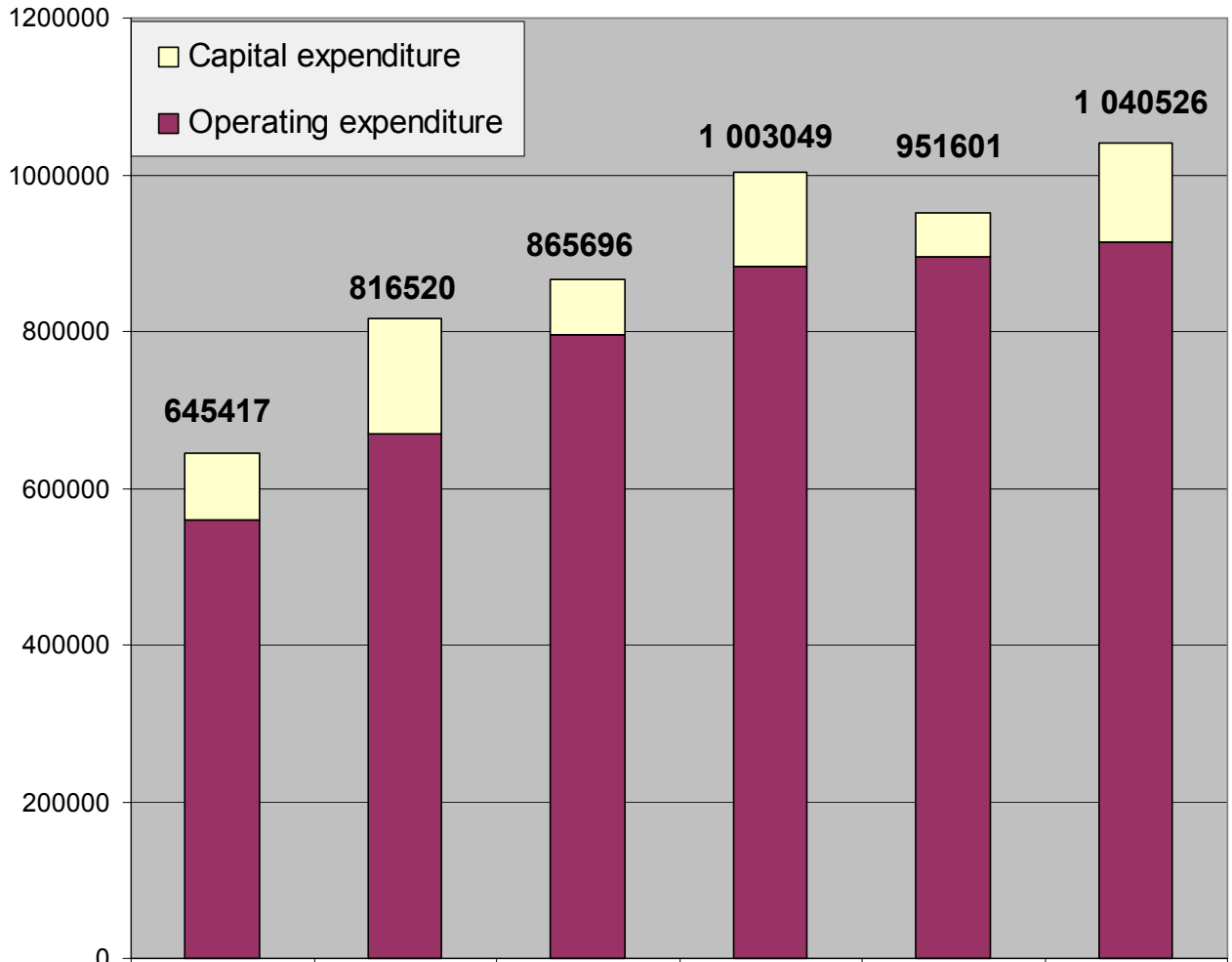
Budget of The European Patent Office (in '000 €)

Budget adopted by the Administrative Council



28% raise between 2001 and 2006

Expenditure of the European Patent Office 2000-2004 (in '000 €)



	2000	2001	2002	2003	2004	2005
Capital expenditure	86750	146267	68870	119932	56595	126493
Operating expenditure	558667	670253	796826	883117	895006	914033

II.

Challenges regarding the grant procedure

Main challenges :

1. Cost of European patents
2. Language question
3. Litigation process
4. Community patent
5. Patentable matters

The cost

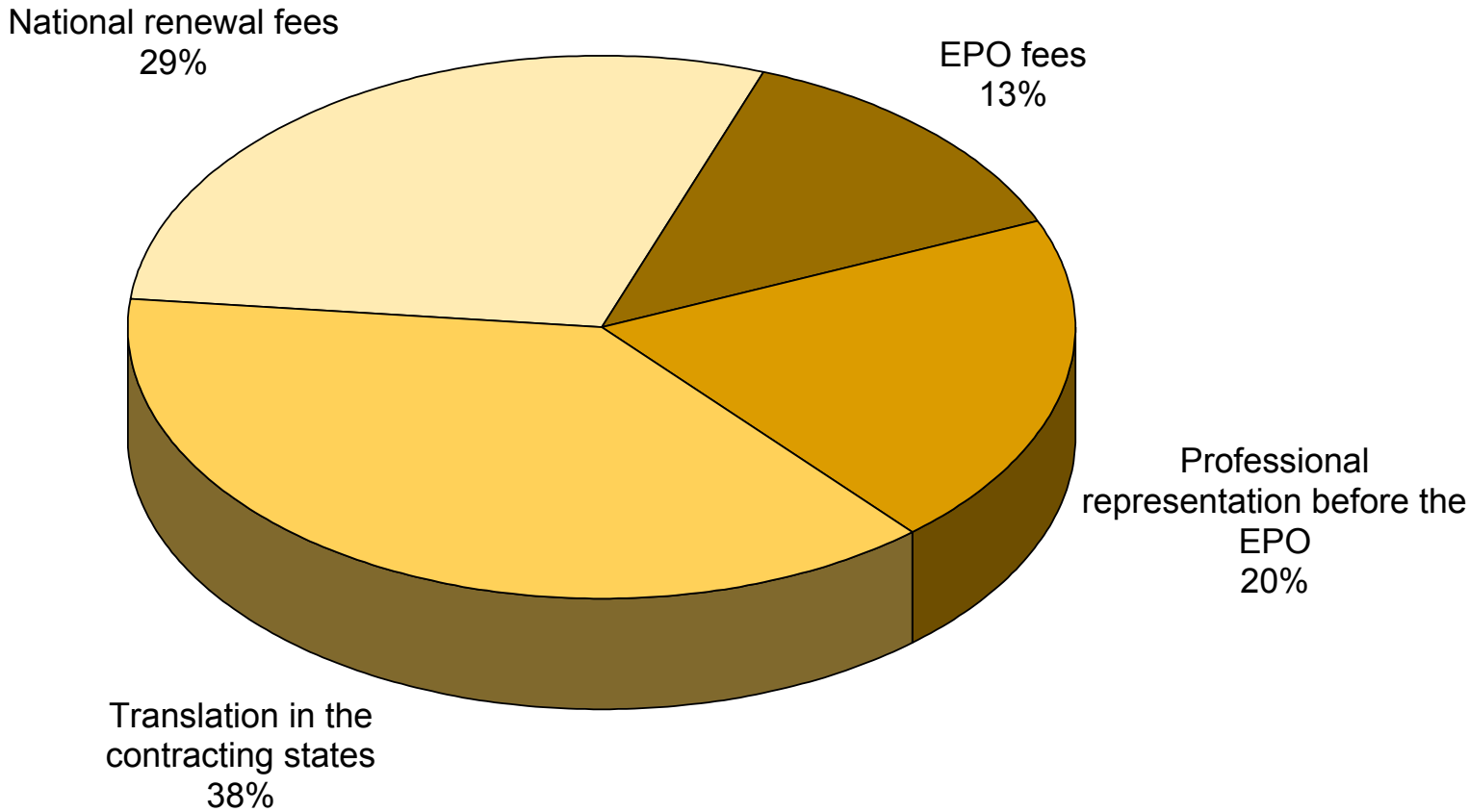
of a European patent

Cost of a US, Japanese and European Patent

Country / Zone	Procedure fees	Renewal fees	Translation costs	Professional representation before the Patent Office	TOTAL
EPC Territory*	4300	8900	11800	6100	31100
US	1900	2730	n/a	5700	10330
Japan	2160	5840	n/a	8450	16450

* For an average European patent application designating 8 Member States, 10-year term

Cost breakdown of an average European patent [1)]



[1)] 8 states, 10-year term

back

The language question

- **3 EPO Official languages: English, French and German**
- **The European patent application must be submitted in one of the 3 official languages**
- **The claims of the European patent must be translated in all official languages**
- **Art. 65 of the EPC: any EPC Member State may prescribe that the applicant for or the proprietor of a patent shall supply a translation of this text in one of its official languages**

→ in practice, all EPC Member States, except Luxembourg and Monaco, prescribe such a translation

The language issue: a financial challenge

500 million € for the Industry

- **Main obstacle for European Medium and Small Enterprises' patent policy**
- **In practice the consultation rate of translations is less than 5% (2% at INPI France)**
- **65% of the applicants use English, 30% German, 5% French**
  - **SOLUTION: London Agreement**

The London Agreement on the reduction of European patent costs

1999 INTERGOVERNMENTAL CONFERENCE

➡ **LONDON AGREEMENT, signed in 2001**

AIM

Reduction of the translation costs of European patents

The Parties to the Agreement undertake to waive, entirely or largely, the requirement for translations of European patents to be filed in their national language

(≠ art. 65 EPC)

If 10 EPC Member States ratify the London Agreement, the cost of a **European patent could be reduced by 45%**

- Status of ratifications: 7 ratifications, among them Great Britain and Germany's (+ parliamentary ratification processes in 4 other countries)

- France is still debating about the ratification though its ratification is obligatory for the London Protocol to enter into force

Back

The litigation issue

Challenges for the European patent system: the litigation system

- **European patents** → bundle of national patents (**nationally enforceable**)
- Interpretation on **validity/infringement** of European patents → **national courts**
- **National decisions** on European patents **can be contradictory**
  - **SOLUTION:** EPLA (European Patent Litigation Agreement)

The European Patent Litigation Agreement (EPLA)

- **Paris Intergovernmental Conference (1999) → EPO Contracting parties → Working Party on litigation**

- **Working Party :**

  → **Draft agreement on the establishment of a European patent litigation system**

  → **Draft statute for the European Patent Court**

The European Patent Litigation Agreement (EPLA)

Objectives:

→ **Avoid cross-border litigation and forum-shopping**

→ **Avoid high costs from multiplicity of procedures**

→ **Same interpretation on validity/infringement and scope of protection related to the same European patent**

Consequence:

→ **Equal protection for the patent holder in all MS and more legal certainty for him and third parties**

Back

Community Patent

The Community patent

The Community patent

EPC Member states
≠ EU Member states

1970s
First attempts to create a Community patent
→ single unitary patent covering the territory of the whole European Union

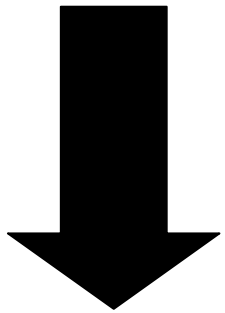
1975

Luxembourg Convention (Community Patent Convention) established by the first Luxembourg Conference

Never entered into force

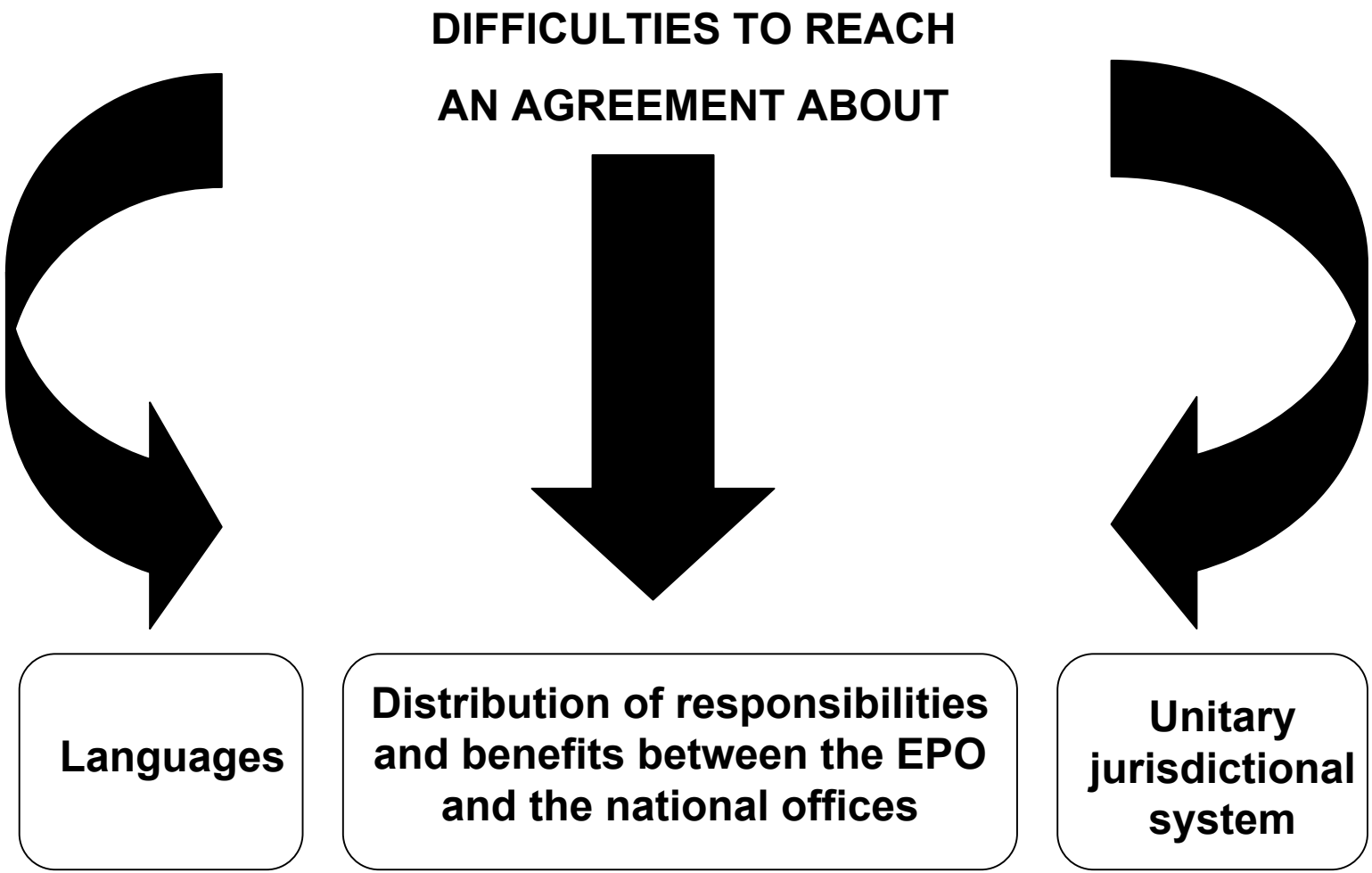
The Community patent

Proposal by the European Commission to introduce the Community patent via a Council Regulation (August 2000)



Community patents would be granted by the EPO on the basis of the EPC and centrally administered

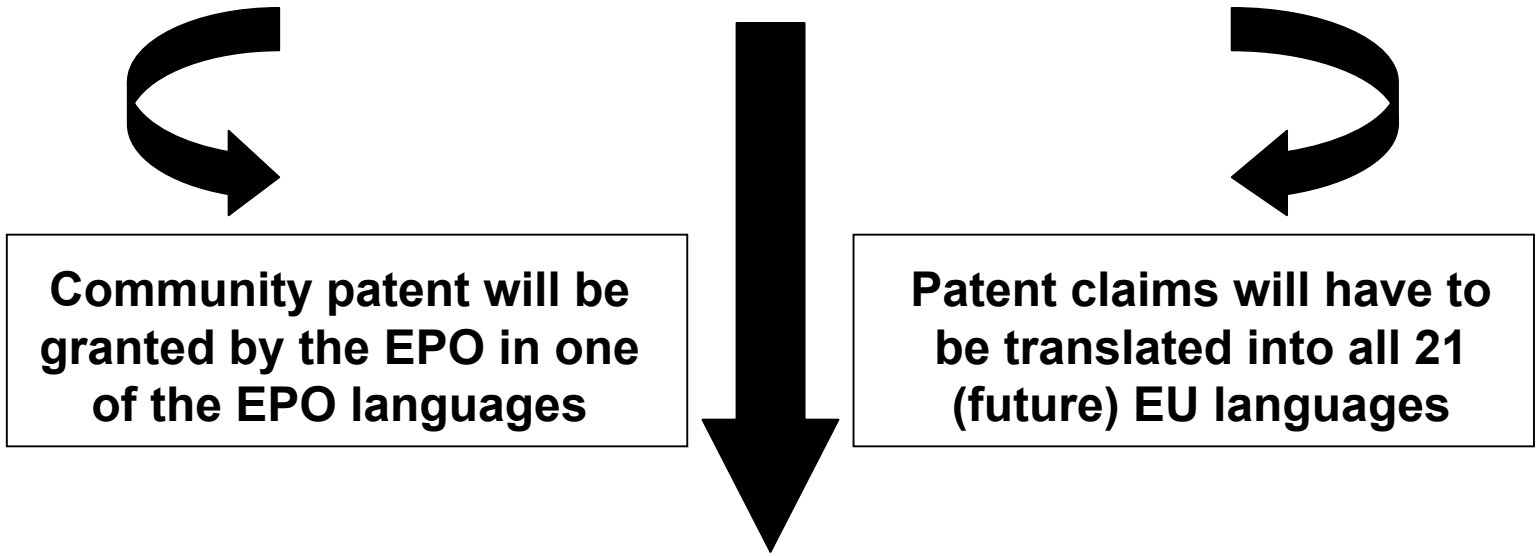
The Community patent



The Community patent

European Council, 3 March 2003

→ COMMON POLITICAL APPROACH



Patentable Matters

New challenges regarding the fast-moving progress of Science and R&D：

- The biotechnology-based inventions
- The software-based inventions

Challenges in the field of patents: the biotech inventions

- In 2010, the worldwide biotech markets could reach 2000 billions euros

- Main fields of application:
  - Health sector
  - Agriculture sector
  - Food sector
  - Environment Protection sector

- In 1980 the US Supreme Court approved the patentability of biotech inventions (*Diamond v. Charkrabarty)*

The patentability of biotech inventions in Europe

EU Directive 98/44/EC adopted in 1998

(still to be implemented by a certain number of countries)

Transposed in the Implementing Regulations to the CBE following a decision from the AC on June 1999

Growing number of biotech patent applications before the EPO

Increase of 225% of applications during the period 1996-2000

In 2004, 5,2% of all patent applications before the EPO were related to biotech inventions

Challenges in the field of patents: the software-based inventions

- In 1998 the European market of software reached 39 billions euros
- At the end of 2001, the European market of software reached 60 billions euros
- In 1981 the US Supreme Court approved the patentability of software-based inventions if the invention has a concrete and useful result (*Diamond v. Diehr*)
- In Japan software-based inventions are patentable if the invention is highly technically improved

The patentability of software-based inventions in Europe

Copyright law according to the Directive 91/250/EEC on the legal protection of computer programs

BUT

Since 1986 the EPO and some national Offices have granted 30 000 patents for software-based inventions

Strong evolution of the EPO jurisprudence → a software-based invention is patentable if it has an additional technical effect

The patentability of software-based inventions in Europe

Different national laws

Hindrance to the EU internal market

1999

Patentability of software-based inventions has become a EU priority for harmonization

February 2002, Proposal of Directive submitted by the EC

→ "technical contribution" of the invention

Highly supported by Microsoft, Siemens, Nokia, Alcatel, etc.

July 2005, the European Parliament rejected the Directive

→ Ambiguous situation in Europe

Low use
of
the patent system in Europe

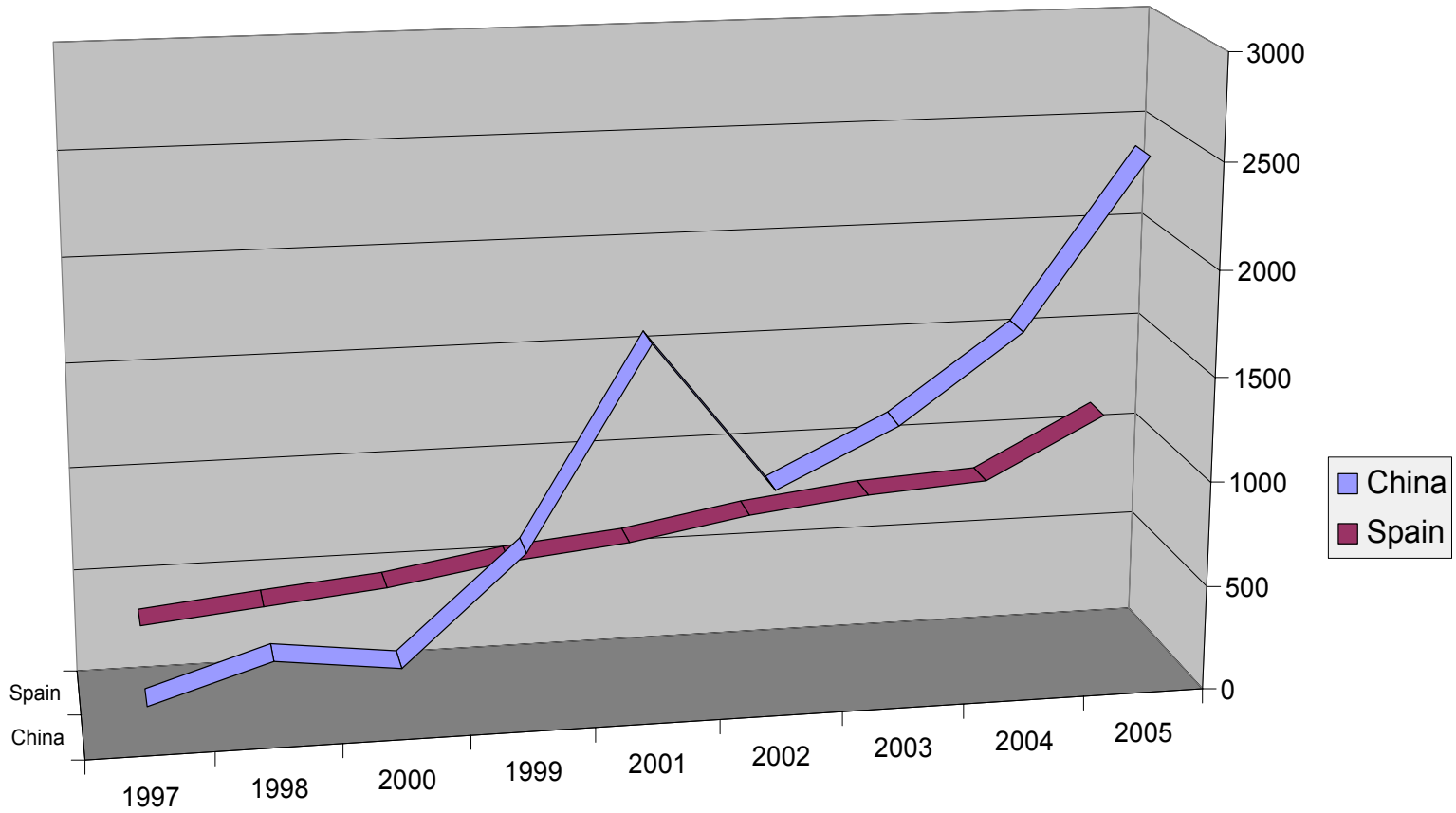
- SME's use of the patent system in order to improve their position on innovation is low
- Globally, SME's are depending on the ability of local IP authorities to support innovation.
- The lack of knowledge and the obligation to use legal advice implies for SME's and independant inventors significant administrative and cost issues.

- **Innovation capacity of SME's is limited.**

Figures in Europe - 2003

- France : 4% of PCT applications
- Germany: 13,2% of PCT applications
- United Kingdom: 6,1% of PCT applications

PCT applications Spain and China

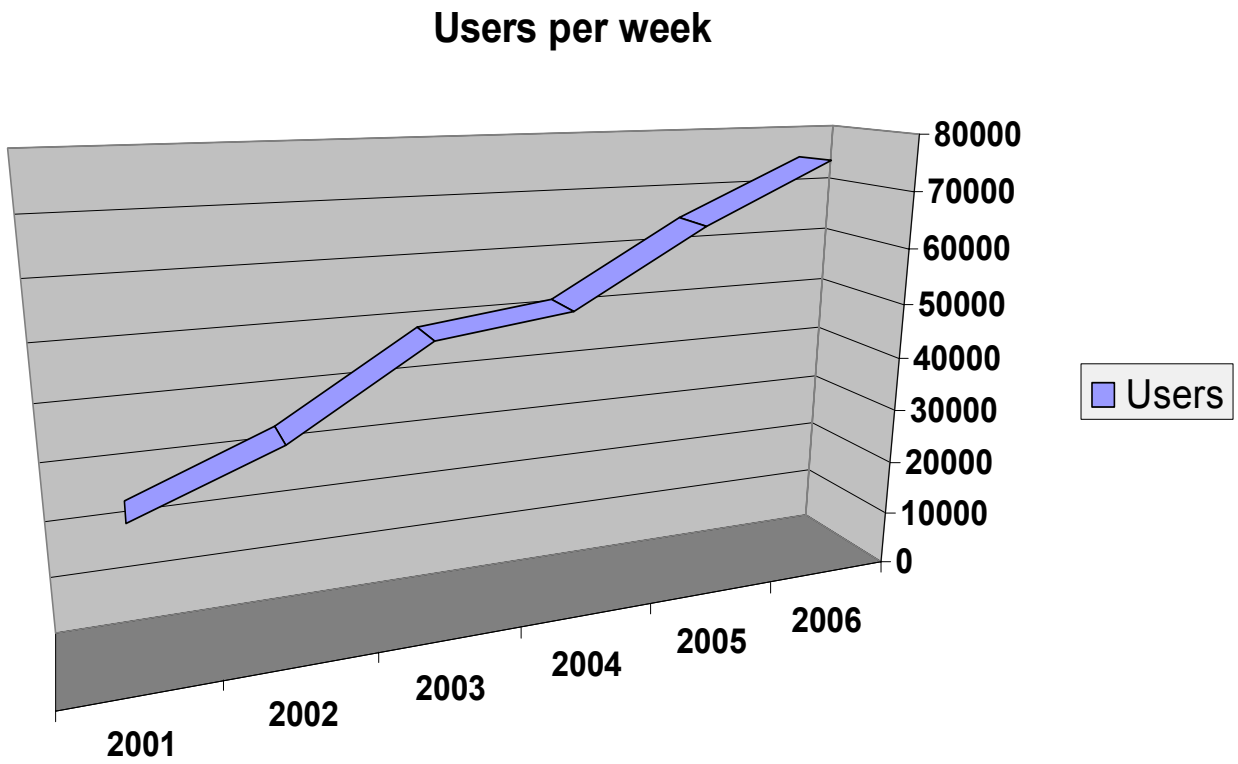


	1997	1998	2000	1999	2001	2002	2003	2004	2005
China	166	348	277	784	1731	1018	1295	1704	2501
Spain	347	406	461	555	616	719	785	823	1119

Example of Portugal:

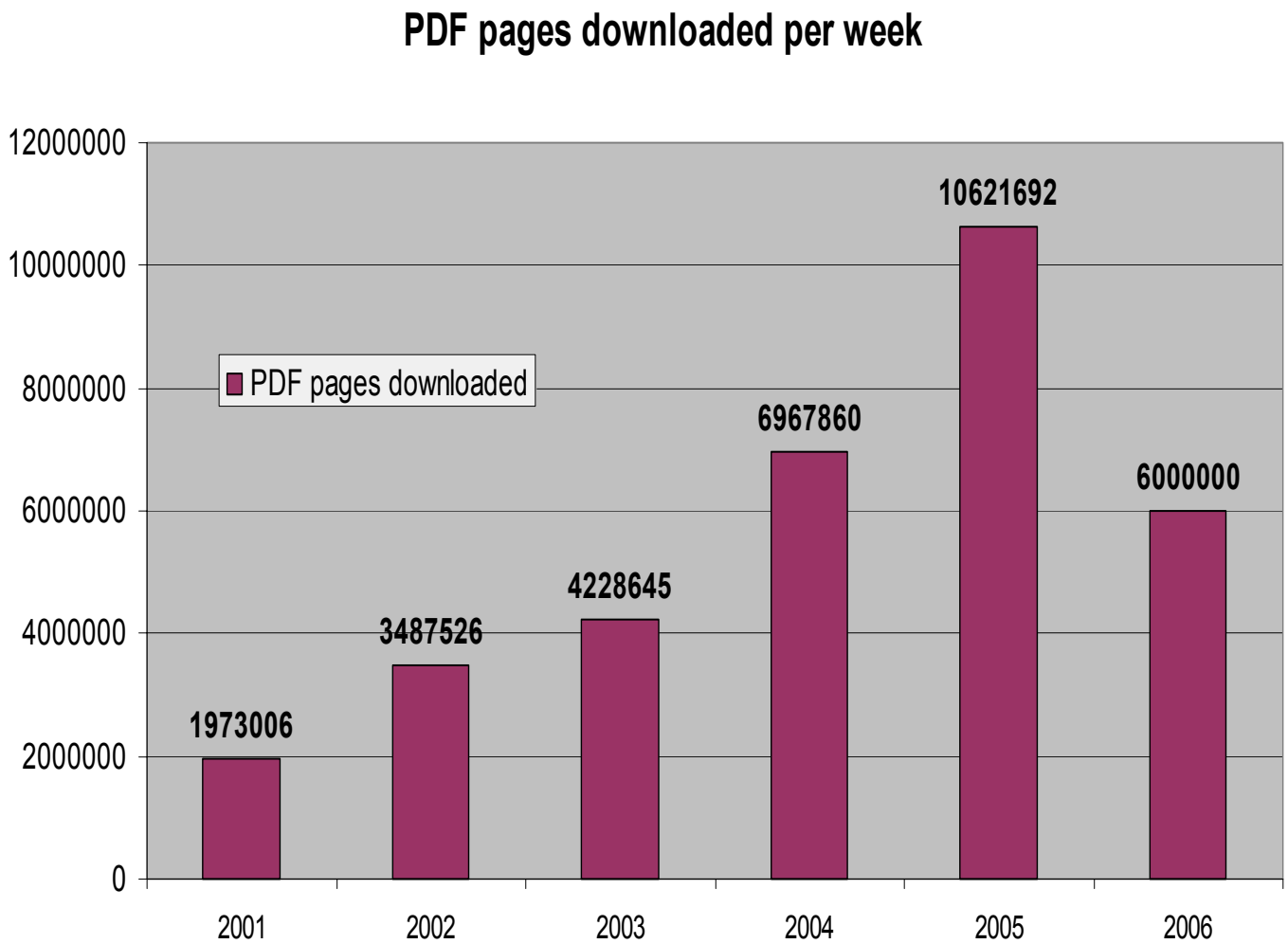
In comparison to the number of inhabitants, Portugal uses a 100 times less the patent system than other developed countries.

Diffusion of technical information Esp@cenet



	Jan-01	Jan-02	Jan-03	Jan-04	Jan-05	Jan-06
Users	24662	34278	48861	52000	65000	75200

Diffusion of technical information Esp@cenet



The EPO and Europe

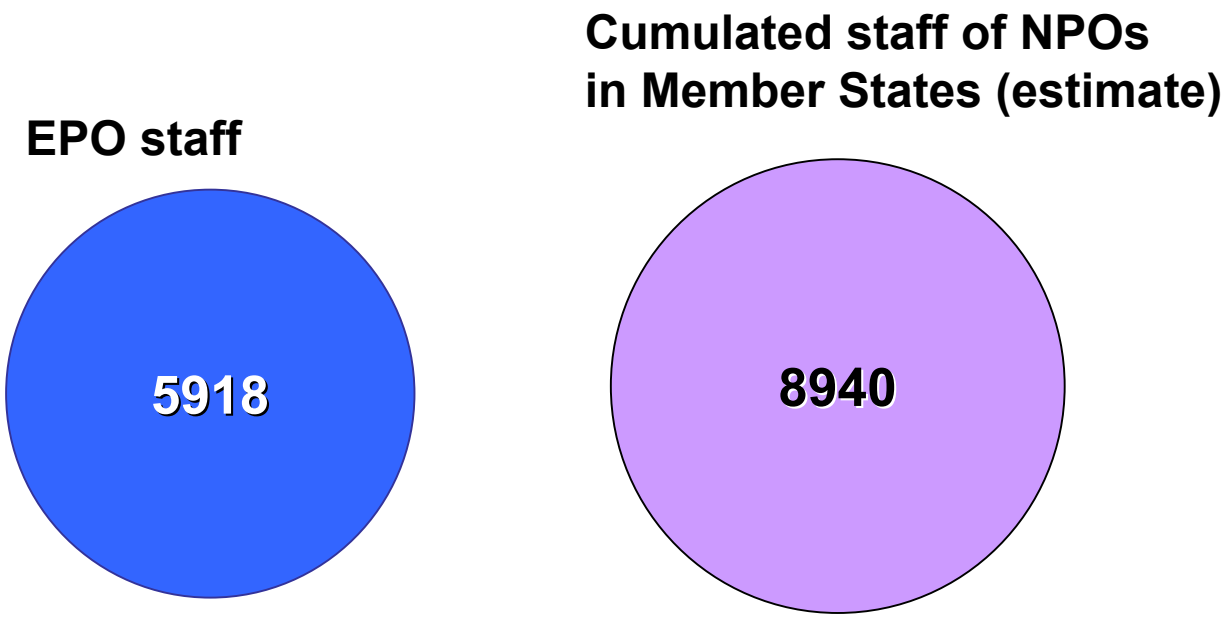
in the global patent landscape

EPO's specificities

1) The EPO and its member States in perspective

Staff

Staff dealing with IP in Europe (2004)

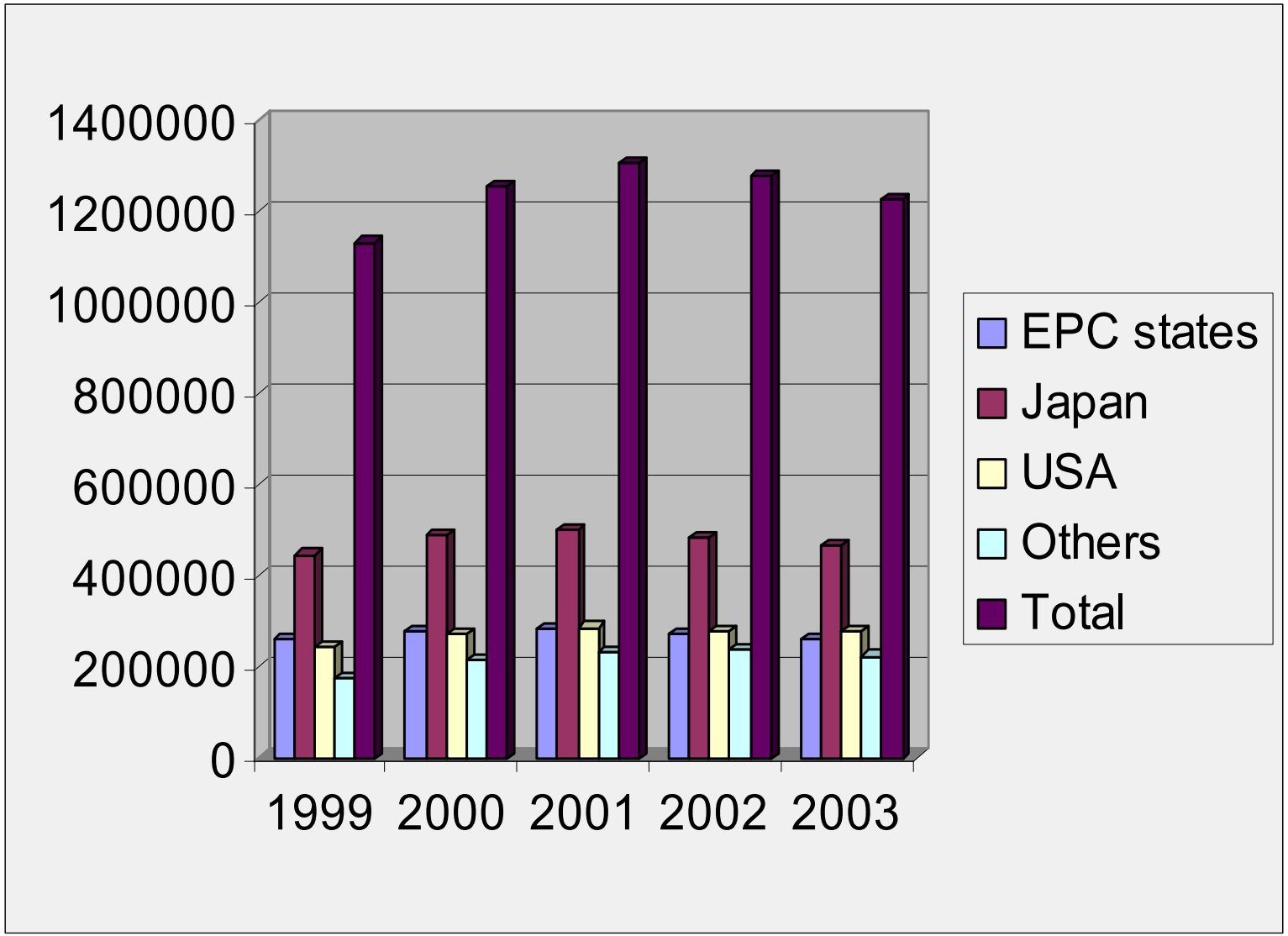


2) In perspective with Japan, the United States and China

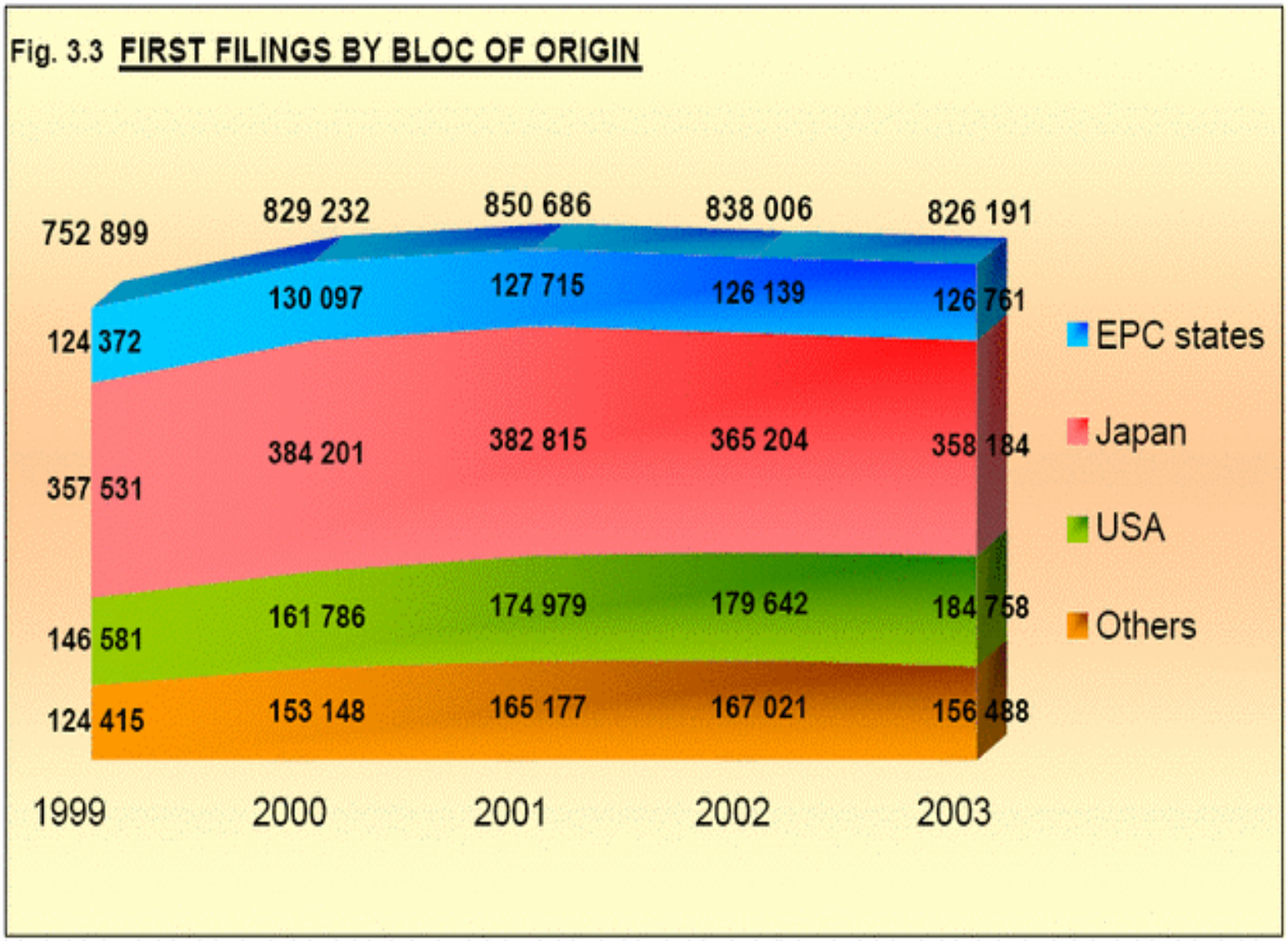
Main differences in the grant procedure

	EPO	JPO	USPTO
System	First-to-File	First-to-File	First-to-Invent
Patentable subject matter	Technical contribution required	Business methods as such are not patentable	No restrictions
Novelty	If not part of state of the art	“new” if it’s novel in absolute terms, no restrictions	If has not already patented or published

Worldwide patent applications by bloc of origin



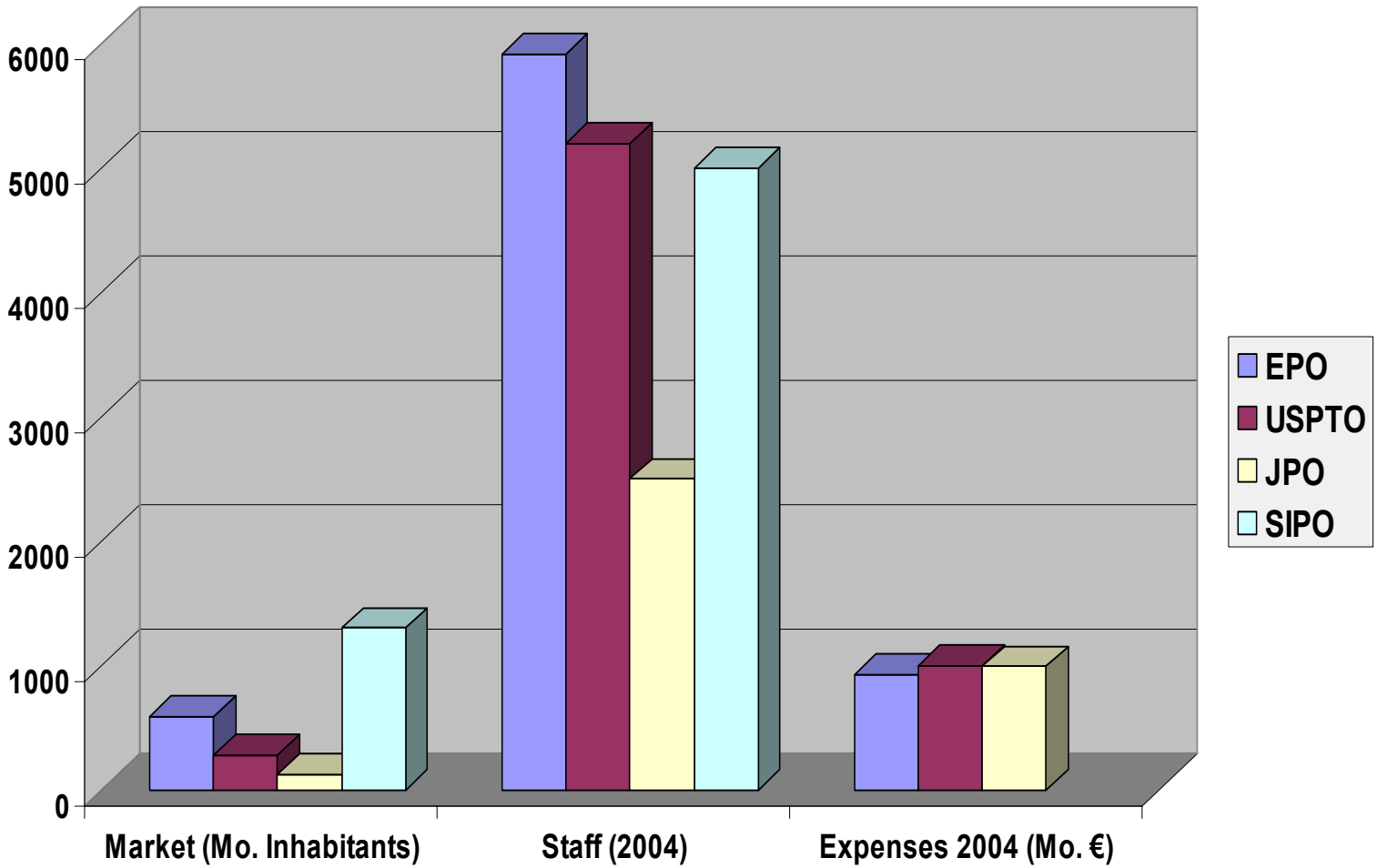
First filings by bloc of origin



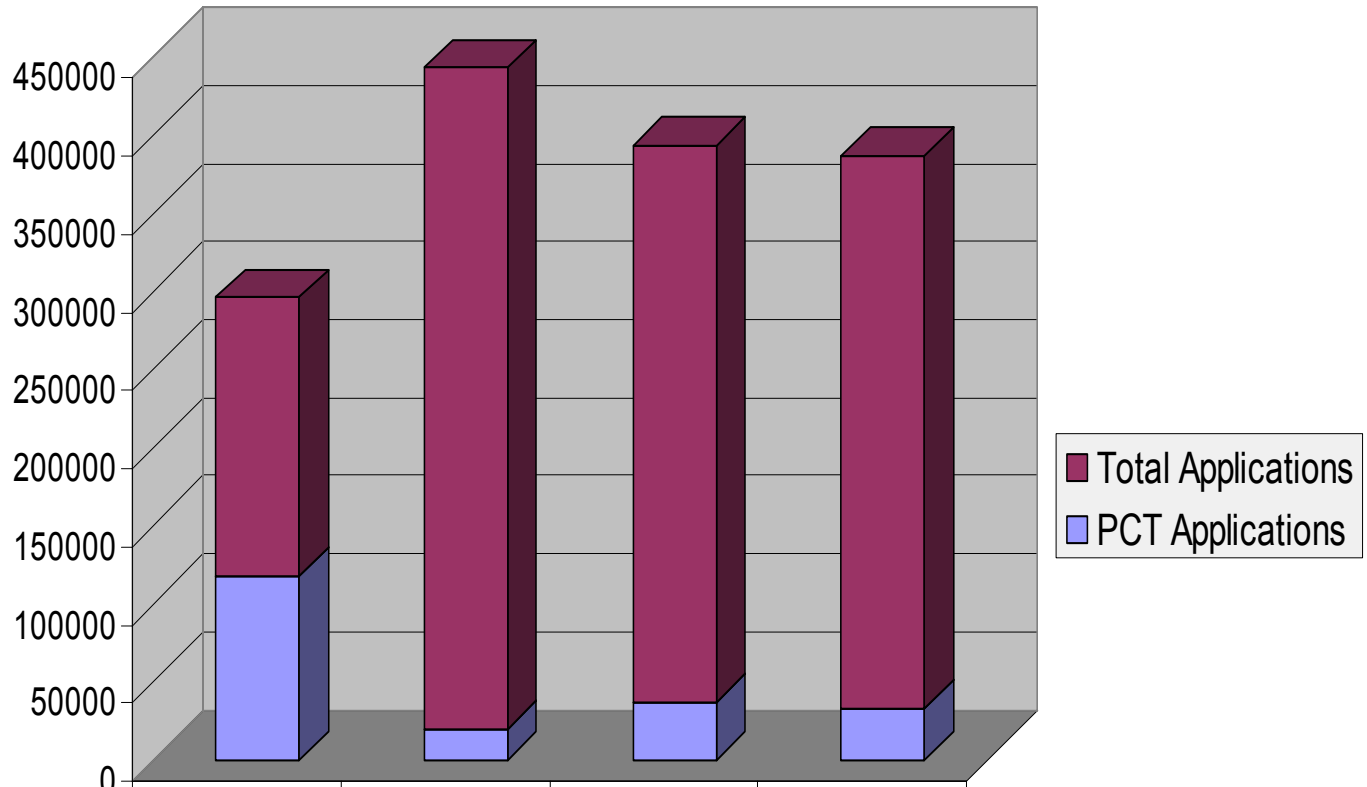
Comparison of the most important patent offices in figures

	Market (Mo. Inhabitants)	Staff (2004)	Expenses 2004 (Mo. €)
EPO	590	5918	932
USPTO	285	5201	1000
JPO	128	2500	991
SIPO	1300	5000	//////////

Comparison of the most important patent offices in figures



Workload 2004



	EPO	JPO	USPTO	SIPO
Total Applications	178000	423000	356943	353807
PCT Applications	118000	20000	36739	32438

Backlog figures for the Trilateral offices in 2004

EPO	126 800
USPTO	470 000 (est.)
JPO	520 000 (est.)

Trilateral offices are facing soaring workload.

JPO: The backlog figure is predicted to rise up to 820000 in the near future according to the office's forecasts.

USPTO: Started 2006 with a backlog of 586,580 patent applications.

"The United States could have a backlog of 1 million patent applications awaiting approval within five years" said deputy director of the USPTO Jon W. Dudas, *Wisconsin State Journal*, april 2004.

Strategies to reduce workload USPTO

21st Century Strategic Plan

2 issues:

- Patent pendency
- Quality

3 main initiatives of the 21st Century Strategic Plan

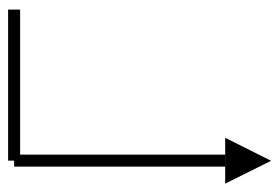
1) Outsourcing to external firms

- Pilot project launched in October 2005
- Is limited to Chapter I searches and examination of PCT applications
- Carried out by 2 commercial entities

USPTO

2) Accepting searches done by some nation's patent offices

Exploring the outsourcing of PCT-related work to other established government IP offices



KIPO designated as an ISA and IPEA for PCT applications filed with the USPTO (January 2006)

3) Encouraging inventors to submit searches as part of an application in exchange for a reduced fee

Recruitments of 978 examiners in 2005

Plan to recruit a further 1000 examiners during 2006.

- JPO -

Objective of a "*nation built on intellectual property*" Prime Minister Koizumi, (February 2002)

Initiatives to improve timelines

- Review of the fee system
- Expansion of the outsourcing to private companies
- In 2001 the examination request period was reduced from 7 to 3 years
- Recruitment of examiners

Outsourcing

- JPO began contracting out the search of prior art in 1985

- March 2005: Law for promotion of Expeditious Patent Examination

  → outsourcing is no more confined to public interest organisations only

- Share of workload outsourced:

  2001: 70% 2005: 75%

Recruitment of examiners:

- 500 fixed term examiners for the next five years since 2004 in addition to increasing regular examiners.

- The JPO has employed 98 fixed term employees every year from 2004 to 2006.

Proposals
for
the Patent system

Trilateral Cooperation

Reutilisation

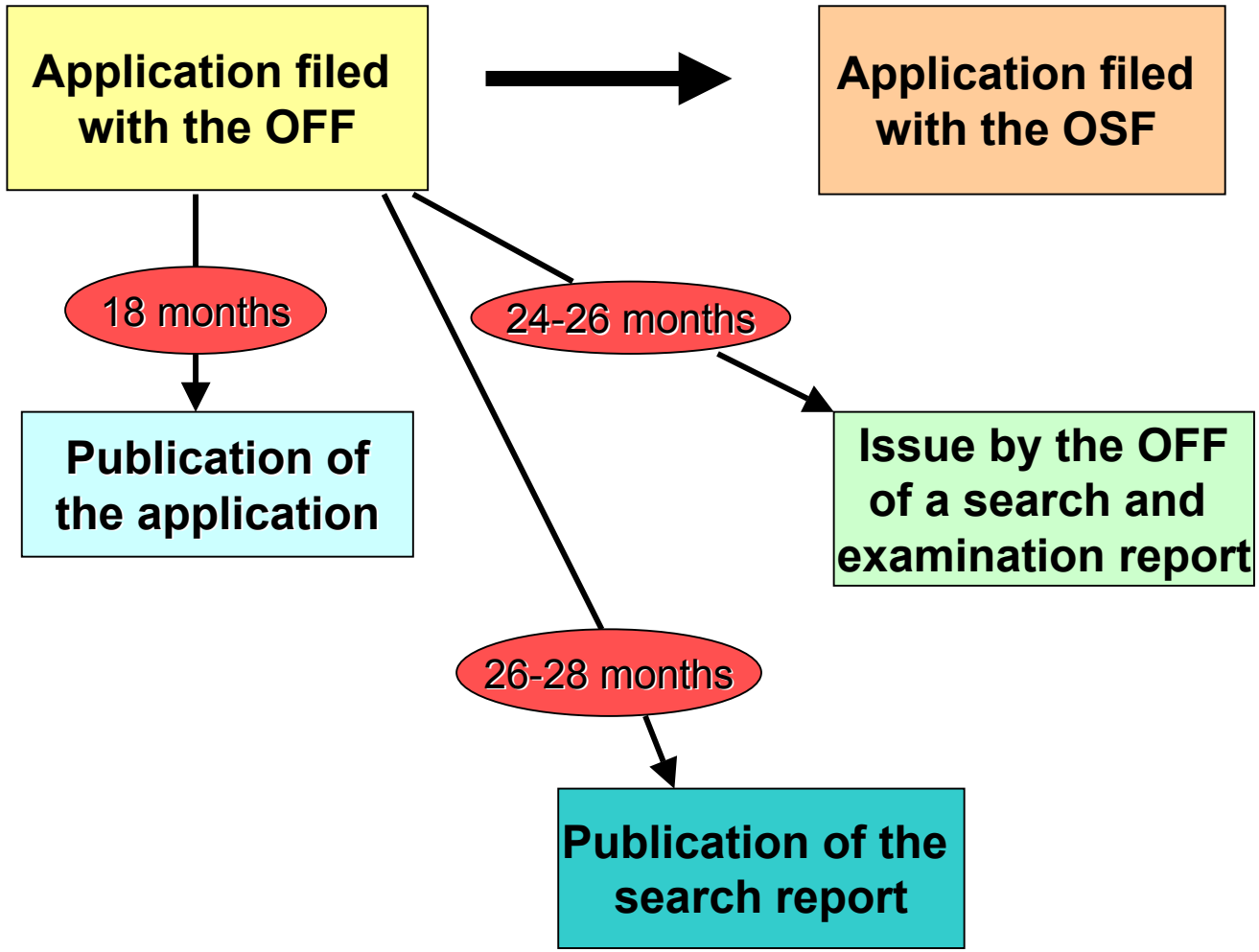
of the work done in other Offices

- **The New Route**
- **The Patent Prosecution Highway**
- **The Triway**

The "new route" proposal (Japan)

The JPO has proposed a new filing route for filing patent applications abroad in addition to the currently existing options through either the national route (Paris Convention) or PCT route.

An application filed with the Office of First Filing (OFF) through the New Route is deemed to have been filed with the Office of Second Filing (OSF) on the filing date or priority date.


Application filed with the OFF
Application filed with the OSF
18 months
24-26 months
Publication of the application
Issue by the OFF of a search and examination report
26-28 months
Publication of the search report

- The OFF publishes the application **18 months** after the filing or priority date.

- Then the OFF issues a search or examination report **24-26 months** after the filing or priority date.

- Finally, the OFF publishes the search report at **26-28 months**.

Based on the first office action received 24-26 months from the filing / priority date, an applicant decides whether to continue the procedure with the OSF.

The time limit for an applicant to submit a translation at the OSF is 30 months from the filing / priority date.

Advantages claimed by the JPO:

1) Time limit for the translation to be provided to the OSF is long (30 months)

2) Filing date of the OSF is secured by filing at the OFF (in the official language of the OFF)

3) Total costs would be lower for IP Offices assuming an enhanced mutual exploitation of search and examination results

4) The search is carried out later than as specified by the PCT, a more complete search can be accomplished.

Comments:

- Today, this view is not shared by Europeans.
- Implementation of this proposal requires the conclusion of a Treaty.

The Patent Prosecution Highway (PPH) proposal (Japan)

This proposal is aiming to use accelerated examination in each Office.

Objectives:

- To ensure the timely search and examination results
- To improve quality and mutual exploitation of work results between patent offices.

USPTO and JPO will implement the PPH on a trial basis in mid 2006.

→ The EPO will present the PPH to its users and Member States and explore the possibility of participating in a pilot project at a later stage.

PPH Scheme

An applicant can apply for accelerated examination of the application filed in the OSF…

He has to submit to the OSF:

- Copies of the OFF-actions (+ translation if necessary)
- The claims indicated by the OFF as being allowable/patentable (+ translation if necessary)
- Copies of the references cited by the OFF-examiner

And he has to amend the OSF application such that all claims in it sufficiently correspond to allowable / patentable claims of the OFF application **+** a document explaining the correspondence in the claims between the two applications.

If OFF considers the invention claimed in an application to be patentable, the applicant can request an accelerated examination under PPH for a corresponding application in the OSF

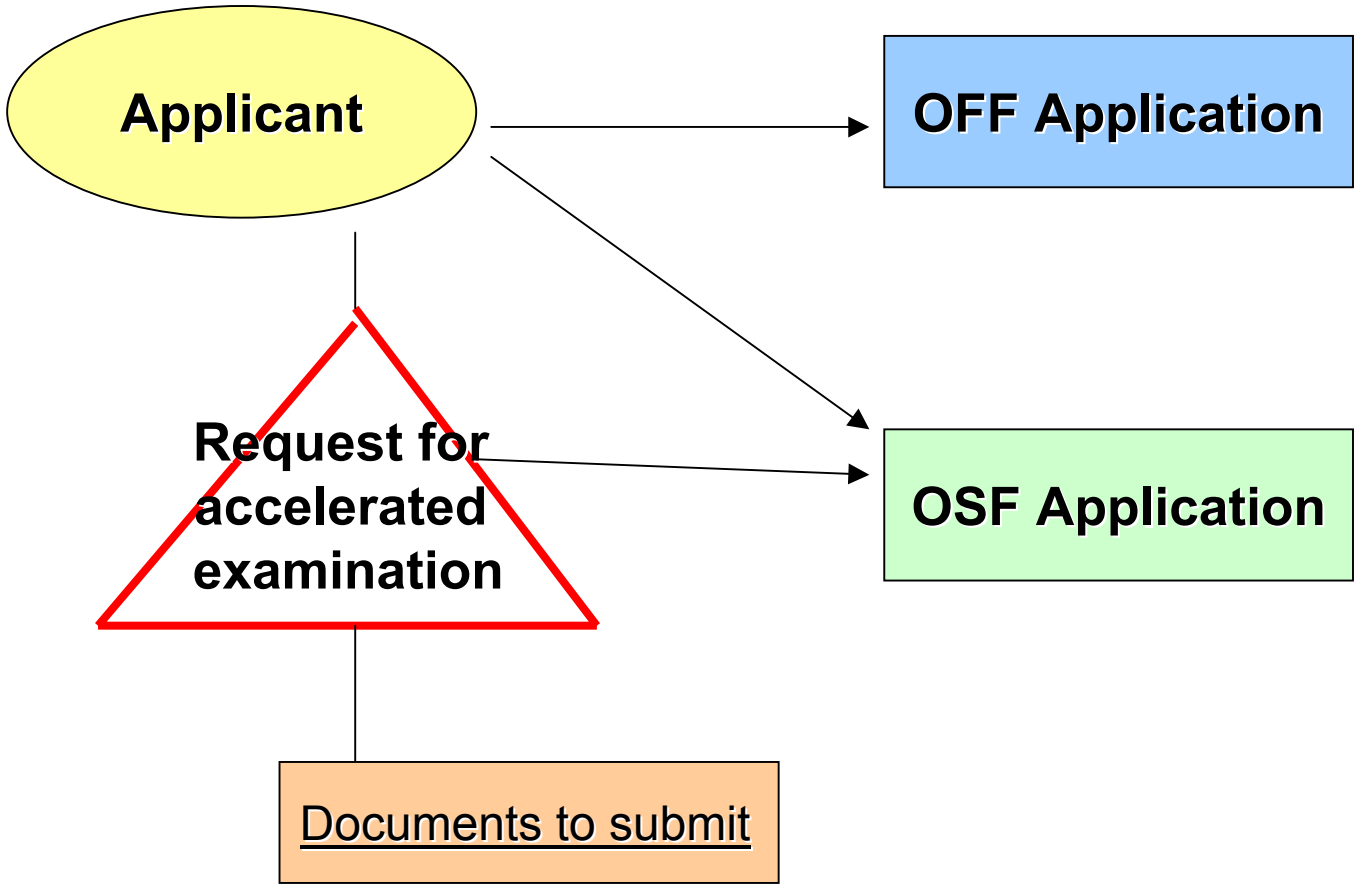
→ Only if the claims in the OSF application sufficiently correspond to the patentable claims of the application in the OFF.

The OSF decides whether the application can undergo the accelerated examination under PPH.

<u>If the request is acceptable:</u>

A special status is assigned to the application for accelerated examination and the OSF starts the procedure.

PPH: outline


Applicant
OFF Application
Request for accelerated examination
OSF Application
Documents to submit

Advantage claimed by the JPO:

It would provide a mechanism that enables applicants who have already filed an application or obtained a patent at the OFF to request accelerated examination at the OSF in a timely and cost effective manner.

2) The TRIWAY proposal (US)

Procedure suggested by USPTO:

STEP 1 :

A corresponding application has to be filed in each of the Trilateral Offices and each application must be ready for examination (alternative proposal: for search).

STEP 2:

One of the 3 Offices is selected as the first Office to carry out the search and examination.

It is suggested that applicants choose their national Offices when they are resident in one of the 3 countries.

STEP 3:

The application in the first office is placed in the special status queue for action

STEP 4:

The first Office sends the search results and the resulting office action to the other two offices in the Trilateral Dossier Access System (TDA) within an agreed time limit.

STEP 5:

The second and third Offices complete their respective searches within an agreed time limit and send their search results in the TDA to be available to all Trilateral Offices.

IF the Office of the first examination considers the claimed invention to be patentable, it waits to take its final decision until the other two Offices have sent their search results.

As an alternative, a Triway implementation could provide for Search results from the 3 Trilateral Offices to be sent simultaneously to promote competition between them, to the benefit of the applicant, who could then take advantage of a "shared" search, regardless of the status of prosecution in any particular office.

Advantages claimed by the USPTO:

- Would permit each Office to take advantage of the two other's search expertise.

- Would allow, if the other two offices rely on the search from the first Office, to focus their search efforts on their primary search resources (USPTO would focus the search on US patent documents).

- The quality of patents would be enhanced since the best art found by the Trilateral Offices would be available within a short time to all three Offices via TDA.

- The three Offices carrying out the search would find respectively the best patent documents in their own country. (USPTO would find the best U.S. patent documents, the EPO would find the best European patent documents and JPO the best Japanese patent documents).

- The Trilateral Offices would gain the efficiency of an initial search, followed by supplemental searches and the benefits of work sharing at the earliest possible time.

Precision:
The two other Offices could provide a refund / reduction in the search fee of the applicant.

Proposals for Europe:

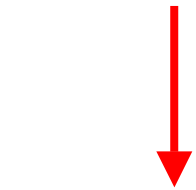
The EPO Strategy debate
The EC survey

European proposals within the EPO Strategic debate

- A Strategy debate has been initiated by the Administrative Council of the EPO in 2004 to try to find solutions to improve the patent system in Europe.

- IDEA → Establishing a European Patent Network (EPN) involving the EPO and National Patent Offices (NPOs)

- Bilateral discussions have taken place between EPO and NPOs.



RESULT

- Identification of 5 elements which could build the structure of the European Patent Network (EPN).

First element: Utilisation

Utilisation by EPO of work done by NPO's

→ *This implies the harmonisation of quality requirements.*

Second element: European Quality Management system (EQS)

A group of experts coming from NPOs and the Office could be be mandated by the Administrative Council to analyse the possibility of establishing a European Quality System (EQS) within the framework of the EPN.

Missions:

- defining minimum requirements of the EQS to allow NPOs to achieve convergences and improvement in the quality of their products.
- preparing a common vocabulary
- study the possibility of the set up of:
    - an independant review mechanism for each Office's Quality System
    - an inter-office communication system between NPOs to promote harmonisation
    - a two way communication between each office and its users to react to their needs.

This group will present a report of its conclusion at the 1st Administrative Council Meeting in 2007.

Third element: User support

Some NPOs would be interested in receiving more tasks to perform locally.

→ The EPO has done a preliminary study to identify a first list of activities that could be entrusted to NPOs. This list includes 2 groups of activities:

1) Tasks currently performed by the EPO, which could be transferred gradually to the NPOs, with *immediate effect;* this would release staff resources at the EPO;

2) Activities which could be either created or developed by the NPO's with EPO support for the benefit of users. This would require more time.

Fourth element: Cooperation with member states

- New policy for cooperation with Member States.

The new policy could

- support the "National expertise"
- concern all areas promoting an efficient us of IP as a mean to support innovation
- be based on National development plan for the use of IP

Programmes

- Awareness
- Information systems
- Documentation
- Classification
- Training
- Patent Information

Patent Information

- Make available patent information of the same quality throughout Europe
- Adapt patent information for local markets in local language throughout Europe
- Create a new user search tool for patent searches, both for professionals and non-professionals
- Develop tools facilitating in interpretation of search results
- Train staff of NPOs and patent information centres to become innovation advisors

Fifth element: Future workload in Europe

- A study on the possible development of workload in the long term.

Proposal to establish a group working on possible scenarios (including the decentralisation of EPO work) and analysing possible solutions to help the EPO to be prepared to meet the challenges of the future.

Thank you for your attention

Gérard Giroud
Principal Director