

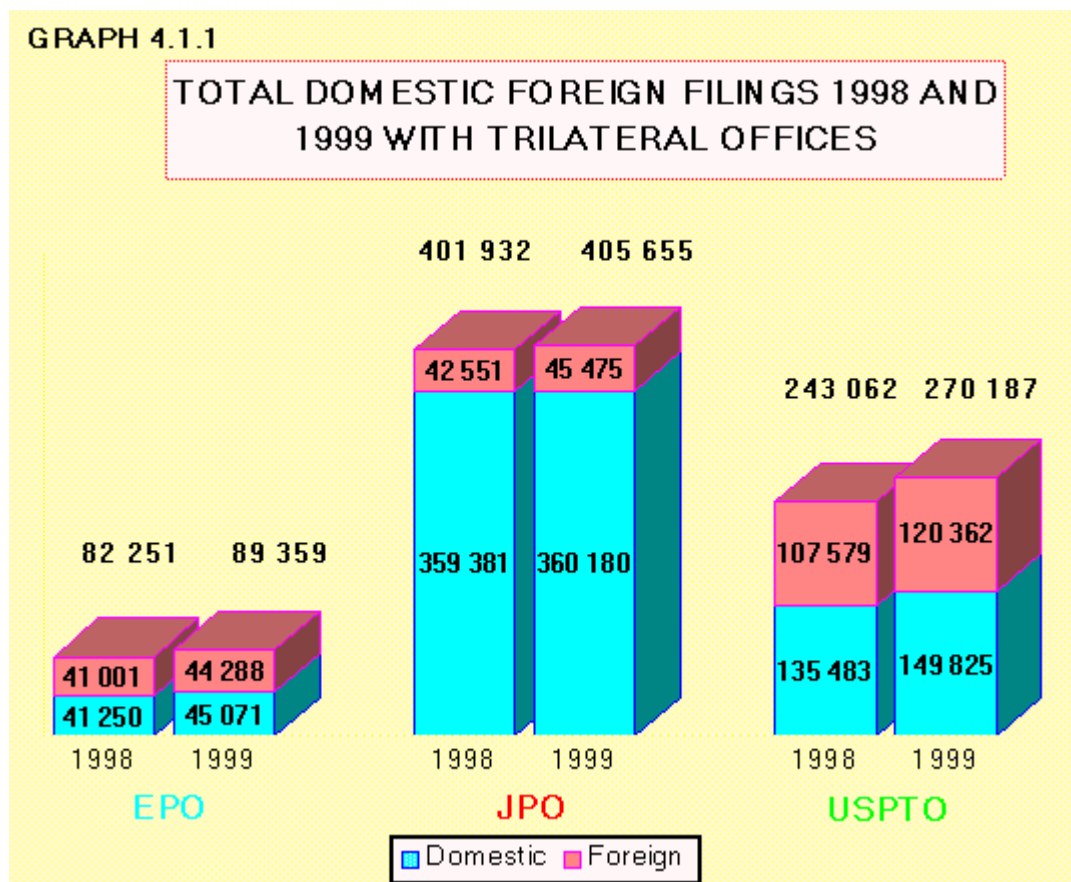
## **4 DEMAND AT TRILATERAL OFFICES**

Demand at Trilateral Offices is demonstrated by statistics on patent applications. They are counted at the date of filing for direct national applications in the case of Japan and the United States, and for regional applications in Europe. For international (PCT) applications the date of entry in the national or regional phase is the basis for counting since, under the PCT, examination in the designated Offices may not start before that time. The total of direct national/regional applications filed and international applications entering the national/regional phase will hereinafter be called "patent applications filed" unless explicitly stated otherwise.

In the statistics on grants, direct, regional and international applications granted are taken into account. Grants by the EPO are one action leading to multiple patents in the designated EPC States. Since in this context the statistics are meant to give an insight in the workload rather than the number of resulting individual patent rights, hereinafter "patents granted", will correspond to the number of grant actions.

## 4.1 APPLICATIONS WITH THE TRILATERAL OFFICES

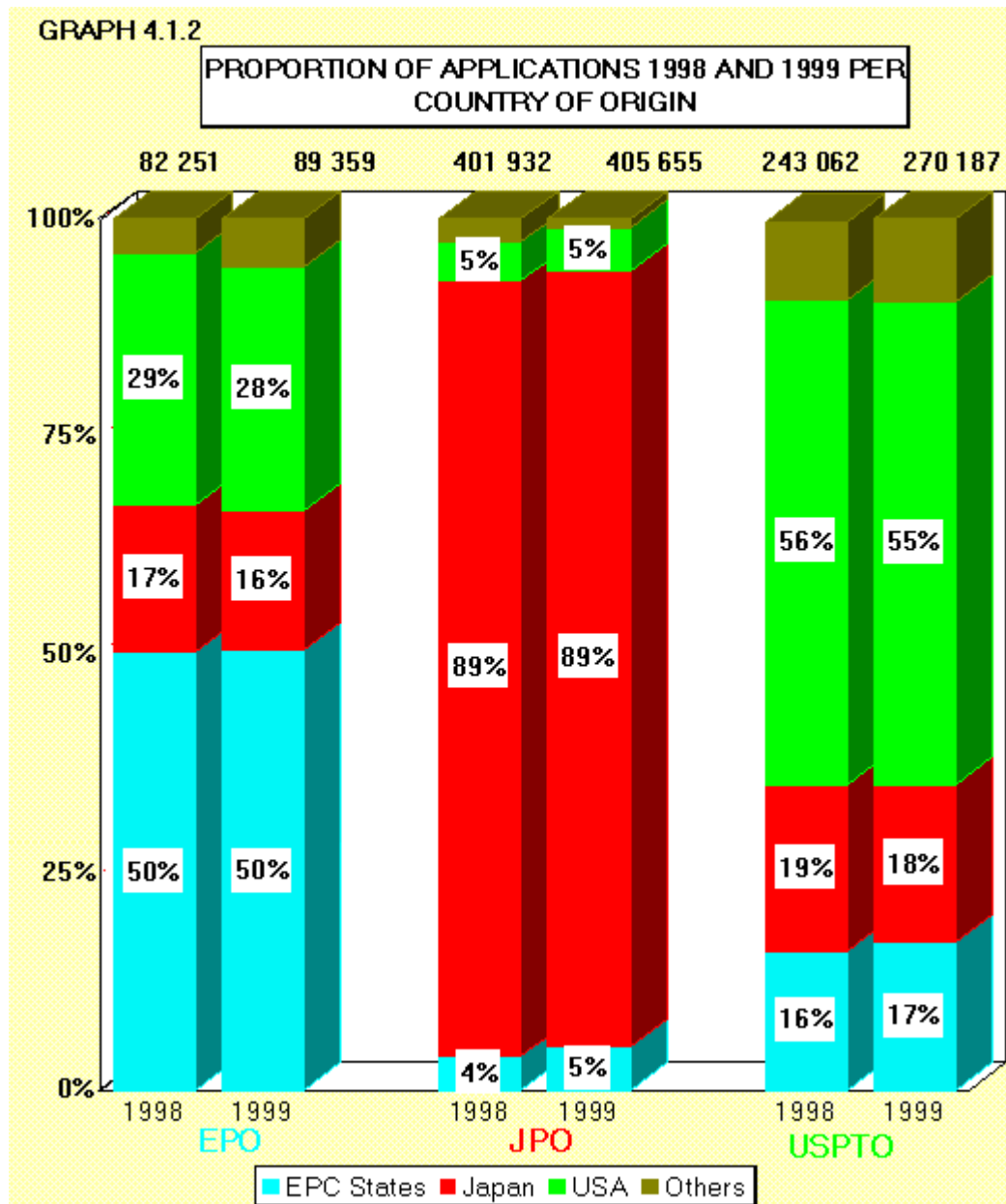
The number of domestic and foreign applications filed with Trilateral Offices for the years 1998 and 1999 is shown in the graph below:



The number of applications filed at the JPO increased by 3 723 or 0.9% and remains the highest. 7 108 more applications were filed with the EPO, an increase of 8.6%. The number of applications filed at the USPTO increased by 27 125 or 11.2%.

In 1999, domestic filings in the JPO form 89% of total filings; for the USPTO and the EPO they form 55% and 50% of total filings respectively. The numbers of domestic filings in the JPO and the USPTO are approximately equivalent to the number of first filings. Domestic EPO filings are defined as the total of EPO filings by residents of EPC Member States. Only a low proportion of these are first filings at the EPO, which is explained by the filing practice in EPC States since the first application is generally filed at a national Office. A subsequent filing at the EPO follows if the invention is judged to be worthy of protection throughout Europe. Consequently, the number of domestic filings at the EPO is not equivalent to the number of first filings. The first filings with the EPO from residents of EPC States were 5 916 in 1998 and 6 786 in 1999, respectively 14.3% and 15.1% of domestic European filings

The breakdown of applications in Trilateral Offices by country of origin in 1998 and 1999 is as follows:

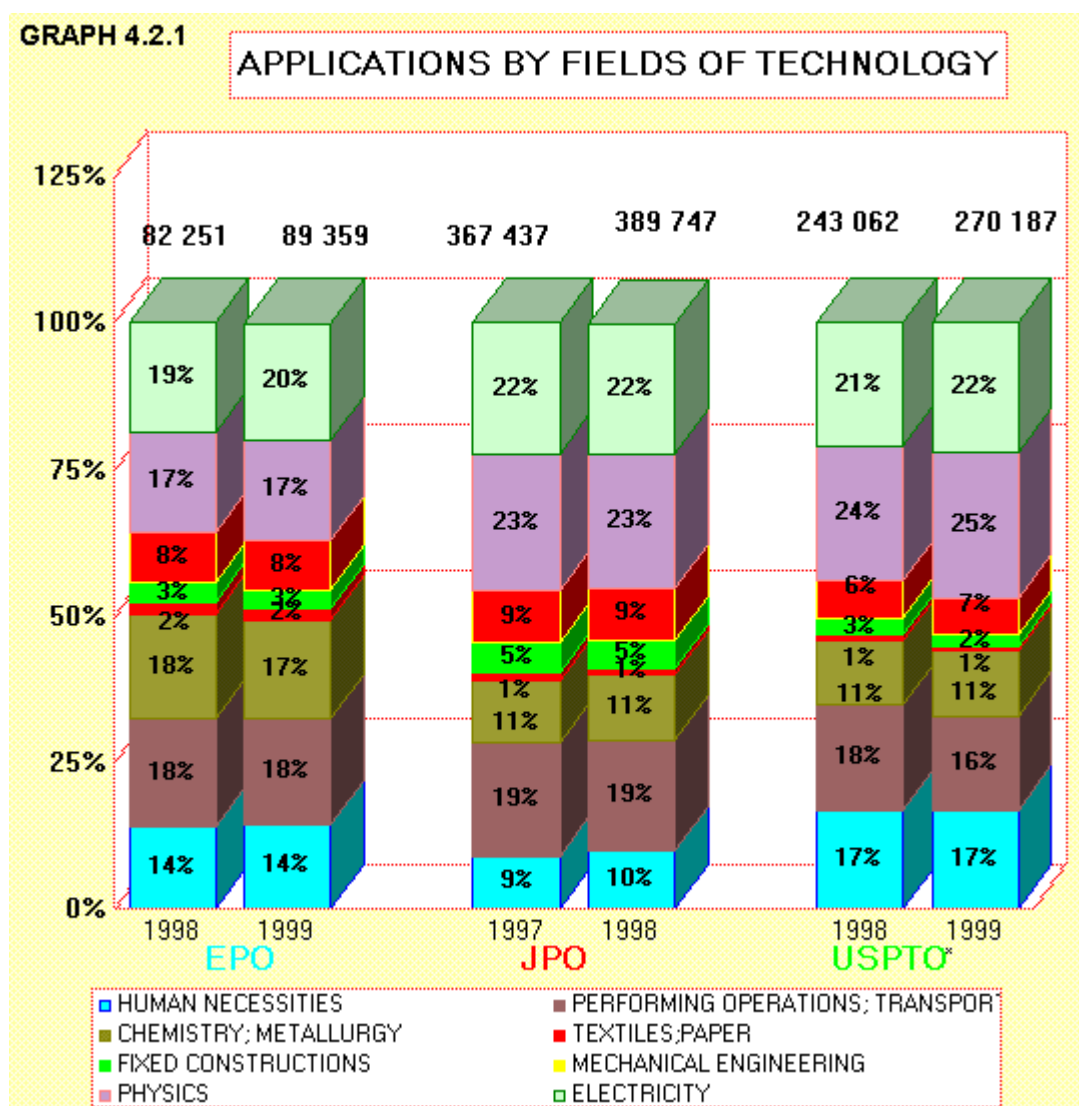


Compared to 1998, the share of filings from EPC increased slightly in the JPO and in the USPTO. The share of filings from Japan decreased by 1 point in the EPO and in the USPTO. The share of filings from the United States is unchanged in the JPO and decreased by 1 point in the EPO. The share of filings from outside the trilateral blocs decreased in the JPO, but increased in the EPO.

## 4.2 APPLICATIONS BY FIELDS OF TECHNOLOGY

The breakdown of applications in Trilateral Offices by field of technology according to the International Patent Classification (IPC) Sections A-H is given below for the EPO and the USPTO for the filing years 1998 and 1999. For the JPO the breakdown of published patent applications is given for the filings years 1997 and 1998. The figure for 1998 is the most recent figure because the IPC is assigned just before the publication of Unexamined Patent Gazette (after the expiration of 18 months from the filing date).

The proportion of Human Necessities is higher in the USPTO (17%) than in the EPO (14%) and in the JPO (10%). The proportion of Chemistry/Metallurgy is higher in the EPO (17%) than in the USPTO (11%) and the JPO (11%). The proportion of Physics and Electricity applications increased to 47% in the USPTO, it is comparable to that in the JPO (45%), and higher than in the EPO (37%). In the other sections, the proportions are comparable in the three blocs.



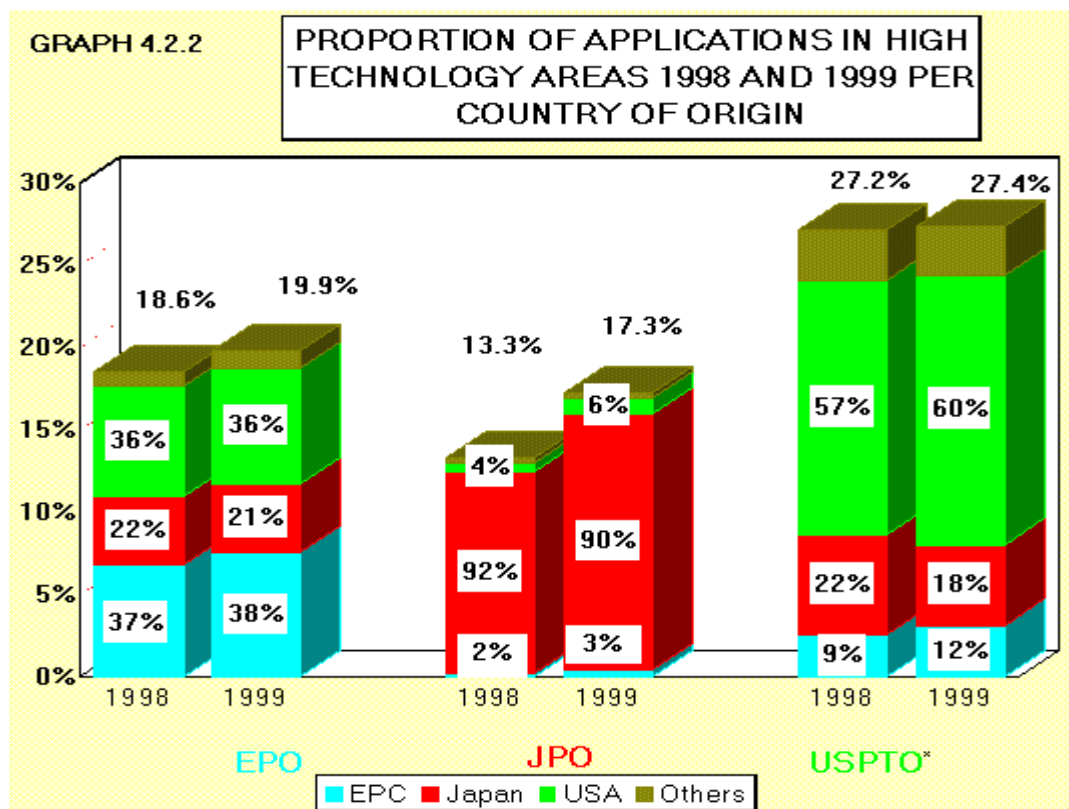
(\*) As USPTO applications are classified according to the US Patent Classification System, the breakdown according to IPC has been determined by means of a general concordance between both classifications. Therefore the technical scope at the USPTO with respect to IPC may differ from the scope as presented by EPO and JPO.

Among all applications filed at the Trilateral Offices, an increasing proportion relates to high technology areas. In the graph below, this proportion is given for each office for applications filed in 1998 and 1999, together with their origin. The following technical fields have been defined as high technology:

Computer and automated business equipment; micro-organism and genetic engineering; aviation; communications technology; semi-conductors; lasers.

In 1999, 19.9% of the EPO applications were filed in these fields, 36% thereof by United States applicants, 38% by EPC applicants and 21% by Japanese applicants. At the JPO, 17.3% of the 1999 filings related to high technologies; 90% thereof were filed by Japanese applicants, 3% by EPC applicants and 6% by United States applicants. High technology represented 27.4% of all filings at USPTO; 60% were from United States applicants, 18% originated from Japan and 12% from EPC. In 1999, the high technology area shares rose at all offices.

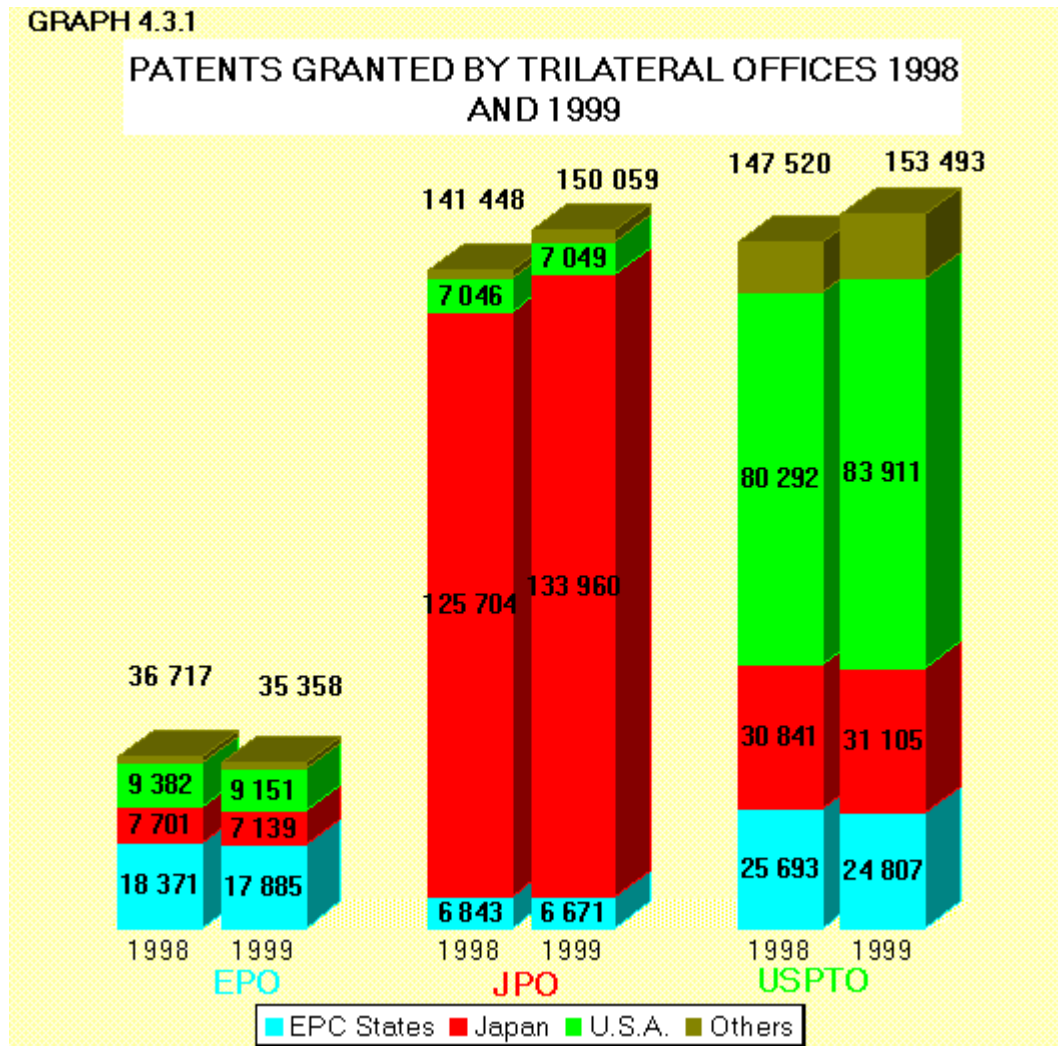
The share of EPC applicants in high technology is below their share in all filings as given in graph 4.1.2 at the EPO and at the USPTO. The share of United States applicants in high technology is higher at the EPO and the USPTO than on average. The share of Japanese applicants in high technology is higher at the EPO than that in all filings, and comparable to that in all filings at the USPTO.



(\*) As USPTO applications are classified according to the US Patent Classification System, the breakdown according to IPC has been determined by means of a general concordance between both classifications. Therefore the technical scope at the USPTO with respect to IPC may differ from the scope as presented by EPO and JPO.

### 4.3 PATENTS GRANTED BY TRILATERAL OFFICE

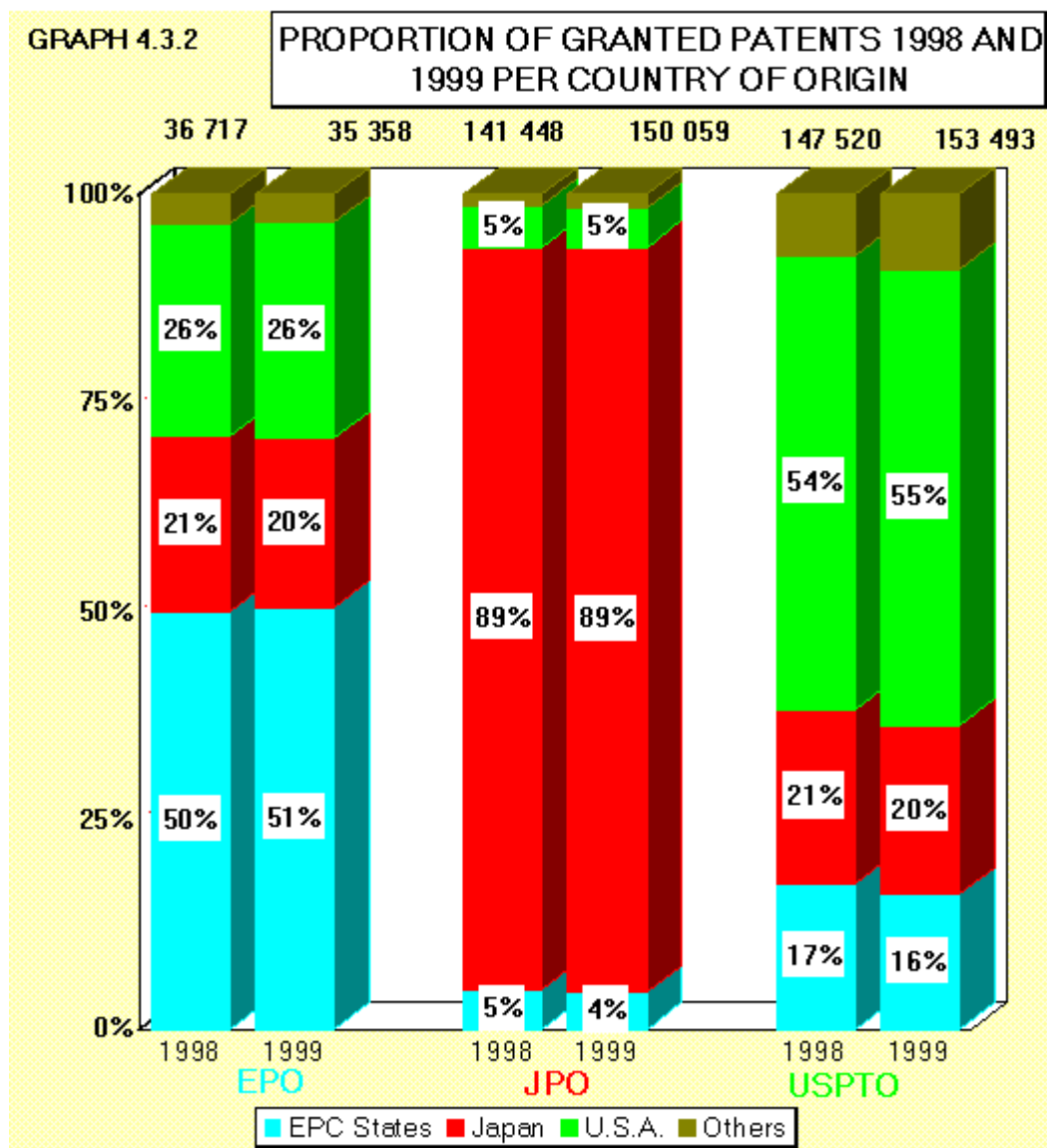
The development in the number of patents granted by Trilateral Offices is shown below:



The number of patents granted by the JPO increased by 6% to the level of 150 059 granted patents in 1999. There have been 35 358 patents granted by the EPO in 1999 (4% less than in 1998). At the USPTO, the number of granted patents increased by 4%, to 153 493.

The breakdown of patents granted in 1998 and 1999 by Trilateral Offices according to country of origin is shown below.

The shares from the different filing blocs are more or less comparable to those observed for the filings in the three Offices (as presented in Graph 4.1.2.).



A patent granted by an office has a maximum term fixed by law. In order to maintain the protection right, the applicant has to maintain the patent by paying renewal fees in the country where the protection was obtained. Maintenance systems differ from country to country.

In the United States, a patent filed after June 8, 1995 has a term of 20 years from the date of earliest filing. Patent maintenance requires payment of fees in three stages: 3,5 years, 7,5 years and 11,5 years after grant.

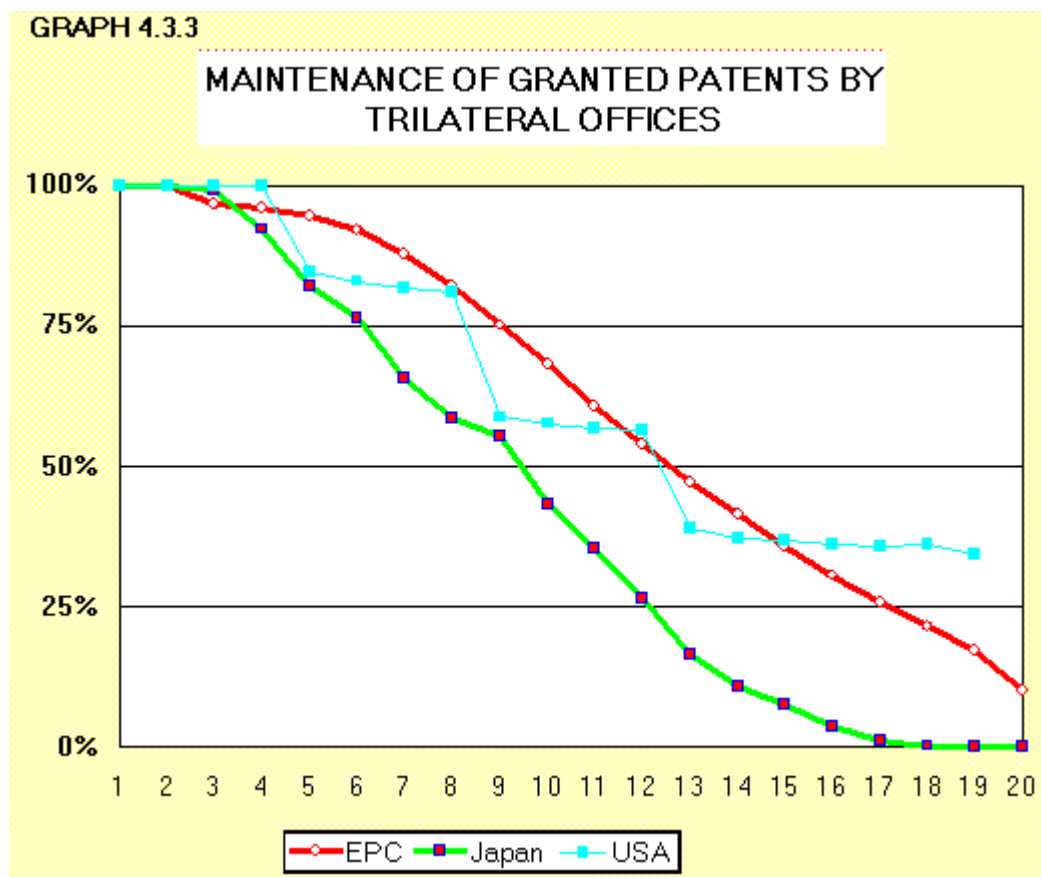
A European patent has a twenty-year term from the date of filing and yearly renewal fees have to be paid from the third patent year onwards to maintain the protection. After the application has been granted, annual renewal fees have to be paid to the national office of each designated member state where the patent is to be kept alive.



The term of a Japanese patent is twenty years from the date of filing. The first three year's fees are paid together, and for subsequent fees, the applicant can pay either yearly or in advance.

In the three procedures, if a renewal fee is not paid in due time, the protection right expires.

The following graph indicates the proportion of those granted patents, which were maintained in each patent year (from filing for the EPO and the JPO, and grant for the USPTO). In the United States more than 50% are maintained at least 12 years; 50% of EPO patents are maintained at least 12 years; and in Japan more than 50% of the patents are maintained for nine years.

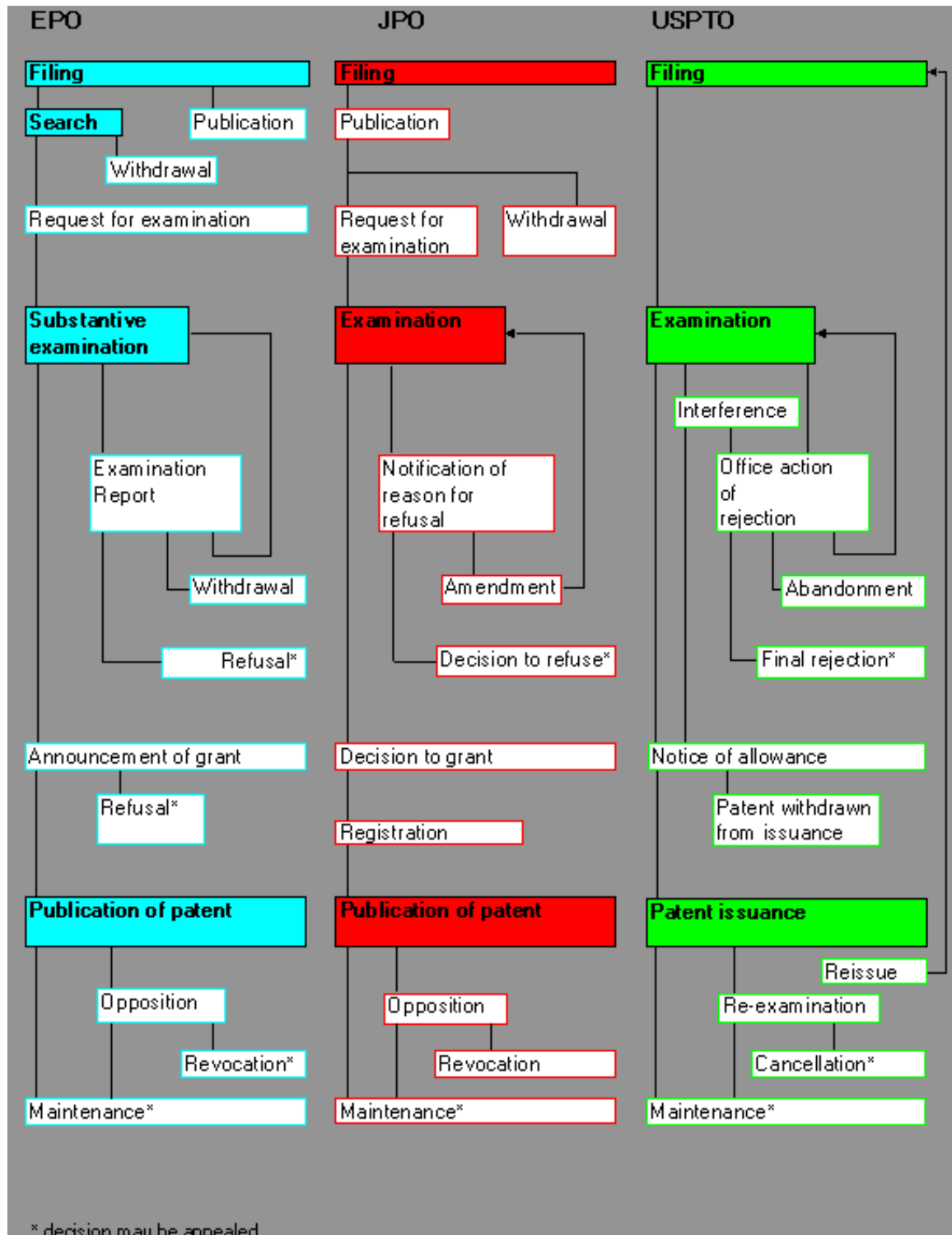




## 4.4 TRILATERAL PATENT PROCEDURES

### 4.4.1 The procedures

Major phases in the trilateral procedures are outlined in the flow chart below:



## **Examination: search and substantive examination**

Each of the Trilateral Offices will examine a filed patent application based upon novelty, inventive step and industrial applicability. In the EPO this examination is done in two phases: first a search is done in order to establish the state of the art with respect to the invention. In a second phase the inventive step and industrial applicability are examined in the substantive examination. In the national procedure before the JPO or the USPTO the search and substantive examination are undertaken in one phase. The international searches and international preliminary examinations carried out by the three Offices are not included in the flow chart since for PCT applications the granting procedure starts at the moment they enter the national or regional phase.

Filing of a European application with the EPO is taken to imply a request for search, but not a request for substantive examination. For the latter, a separate request has to be filed not later than six months after publication of the search. Filing of a national application with the JPO is not implying a request for examination; this may be filed up to 7 years after the date of filing.

Filing of a national application with the USPTO is taken to imply a request for examination.

## **Publication**

In the EPO and the JPO, the application is published after 18 months of the date of filing or priority date at the latest, without regard as to whether the application has already been examined. In the USPTO unexamined applications are not published.

## **Grant, refusal/rejection, withdrawal**

When an examiner intends to grant a patent, it is communicated to the applicant (EPO: Announcement of grant; JPO: Decision to grant; USPTO: Notice of allowance). If a patent cannot be granted in the form as filed before the Office, the intention to reject the application is communicated to the applicant (EPO: Examination Report; JPO: Notification of reason for refusal; USPTO: Office action of rejection). The applicant may then make amendments to the application, generally in the claims, after which examination is resumed. This procedural step is iterated as long as the applicant can and will make amendments. Then either the patent is granted (see above) or the application is finally rejected (EPO: Refusal; JPO: Decision to refuse; USPTO: Final rejection) or withdrawn (USPTO: abandonment; JPO: unapplicable) by the applicant. In addition, if no request for examination for an application is filed to the JPO and the EPO within the prescribed period (seven years from the date of filing at the JPO and six months after publication of the search at the EPO), the application will be deemed to have been withdrawn. Furthermore in all three procedures, an applicant may withdraw or abandon the application at any time before the application is granted or finally refused.

After the decision to grant the patent, the patent specifications are published if certain administrative conditions are fulfilled. (EPO: Publication of patent; USPTO: Patent issuance; JPO: Publication of patent).

## **Opposition**

Any person may file an opposition to the JPO against a grant of patent within six months from the publication of the Gazette containing the patent. Opposition can lead either to a maintenance or revocation of the patent.

Before the EPO, the period for filing opposition(s) begins after granting of the patent rights and lasts nine months. Opposition can lead to maintenance, possibly in amended form, or a revocation of the patent.

In the procedure before the USPTO, there are two features that may lead to the cancellation of a granted patent: interference proceedings and re-examination. These features are not comparable to opposition procedures in the EPO and the JPO. In the USPTO, the first feature is a priority contest between applicants/patentees seeking to protect the same invention and the second feature may be requested by third parties or by the patentee during the life-time of a granted patent.

## **Appeal**

An appeal can be filed by any of the parties concerned against a decision taken by the Trilateral Offices. In practice applicants would appeal decisions to reject the application or revoke the patent, while opponents would appeal decisions to maintain the patent. The procedure is in principle similar for the three Offices. The examining department first studies the arguments brought forward by the appellant and decides whether the decision should be revised. If not, the case is forwarded to a Board of Appeal which may take a final decision or refer the case back to the examining department.

In the JPO, in general, appeal examiners study the arguments brought forward by the appellant and decide whether the decision can be revised. If not, they may make a final decision or refer the case back to an examiner. However, in the case that amendments of the claims or the drawings have been made within 30 days from the date when an appeal against a decision to refuse an application had been filed, an examiner first studies the arguments brought forward by the appellant and decides whether the decision can be revised. If not, the case will be forwarded to appeal examiners who may make a final decision.

### **4.4.2 Statistics on procedure**

The 1998 and 1999 values of the basic characteristics of Trilateral procedures are shown below. The definitions and further explanations on the statistics are given in the ANNEX, DEFINITIONS FOR STATISTICS ON PROCEDURE.

Definitions are not always identical in the three Offices, therefore, for any comparison between the Offices, the differences in definitions should be taken into account.

## **RATES**

The examination rate in the USPTO is 100%, since filing implies a request for examination in the USPTO procedure, whereas in the EPO and the JPO a request for examination has to be made. In the Japanese procedure the examination rate is lowest because applicants have substantively more time in which to evaluate whether to maintain or drop the application.

The grant rate in the EPO procedure as defined in terms of decisions is 64%.

In the JPO the grant rate is stable with 64%.

In the USPTO the grant rate is related to the decisions made in the examination procedure, and increased slightly to 71% in 1999.

The opposition rate in the EPO is 6.1%, and the maintenance rate in the opposition is 70.8%.

In the EPO 283 appeals were received in 1999 i.e. about 50% of decisions in examination to reject the application (570). In the USPTO 3 961 appeals were received being 5.7% of final rejections (69 759).

In the EPO 42% of appealable decisions in the opposition procedure (2 561 in 1999) are appealed against, the number of appeals being 1 063.

The total number of appeals in the JPO against decisions in examination, including decisions on applications against which oppositions had been filed, was 14 605 in 1999, higher than the 1998 figure (14 157).

## **PENDENCY**

In the successive stages of the procedure, there are pending applications awaiting action in the next step of the procedure. The number of pending applications gives an indication about the workload (per stage of procedure) from the patent grant procedure in the three Offices. It is not an indication for any backlog in handling applications within the Offices since a substantive part of pending applications are awaiting action from the applicant, for instance a request for examination (which can take seven years from the date of filing in the JPO), or responding to Office's actions communicated to the applicant.

The pendency in search at the EPO increased from 1998 to 1999 in numbers from 68 000 to 77 500 (14%), and increased in months to 18.9.

The number of pending applications awaiting a request for examination by the applicant increased in the EPO from 14 500 to 16 200 (12%).

In the JPO this number is substantively higher (about 2 148 358) than those in the EPO and the USPTO, due to the long period (seven years from the date of filing) during which requests for examination can be filed.

The number of pending applications in examination increased in the EPO (to about 179 000 in 1999) and the pendency in months increased to 35.3 months. In the USPTO the average time for either abandoning or issuing an application is about 25.2 months.

The pendency to first office action increased in the EPO and the JPO to 19.8 months and 19.7 months respectively, and remained unchanged in the USPTO at 12.6 months.

Pendency in opposition was same in the EPO to 14.2 months.

## **Table 4.4.2 : STATISTICS ON PROCEDURES**

Actual figures have been rounded up.

(Definitions are given in the Annex)

"n.a." indicates unavailable data and "-" means not applicable

Rates (%)		EPO	JPO	USPTO
Examination	1998	91	48	100
	1999	91	50	100
Grant	1998	67	65	70
	1999	64	64	71
Opposition	1998	6.3	4.7	-
	1999	6.1	3.4	-
Maintenance	1998	69.6	n.a.	-
	1999	70.8	n.a.	-
appeal : - examinations	1998	51	-	6.0
	1999	50	-	6.0
- oppositions	1998	40	-	-
	1999	42	-	-
- examinations and oppositions <sup>1</sup>	1998	-	14 157	-
	1999	-	14 650	-
Pendency		EPO	JPO	USPTO
Pending applications in search	1998	68 000	-	-
	1999	77 500	-	-
Pendency search in months	1998	17.3	-	-
	1999	18.9	-	-
Applications awaiting request for examination	1998	14 500	2 155 566	-
	1999	16 200	2 148 354	-
Pending applications in examination	1998	148 100	n.a.	362 797
	1999	179 000	n.a.	400 872
Pendency first office action in months	1998	18.3	19.0	12.6
	1999	19.8	19.7	12.6
Pendency examination in months	1998	33.2	n.a.	24.4
	1999	35.3	n.a.	25.2
Pending applications in opposition	1998	3 270	n.a.	-
	1999	3 030	n.a.	-
Pendency opposition in months	1998	14.2	n.a.	-
	1999	14.2	n.a.	-

<sup>1</sup> For JPO only numbers are available