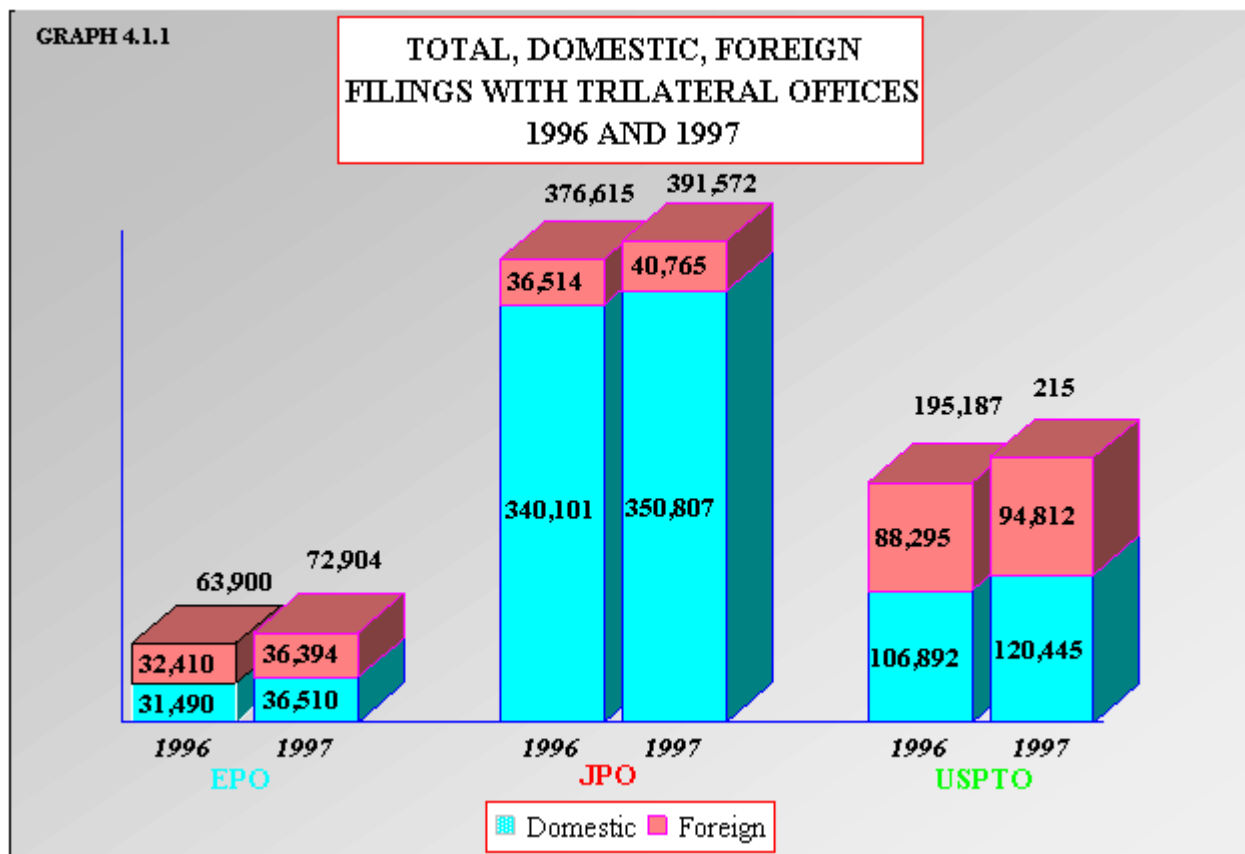


Demand at the Trilateral Offices is demonstrated by statistics on patent applications. These are counted at the date of filing for direct national applications in the case of Japan and the United States, and for regional applications in Europe. For international (PCT) applications the date of entry in 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 of 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 the Trilateral Offices for the years 1996 and 1997 is shown in the graph below:



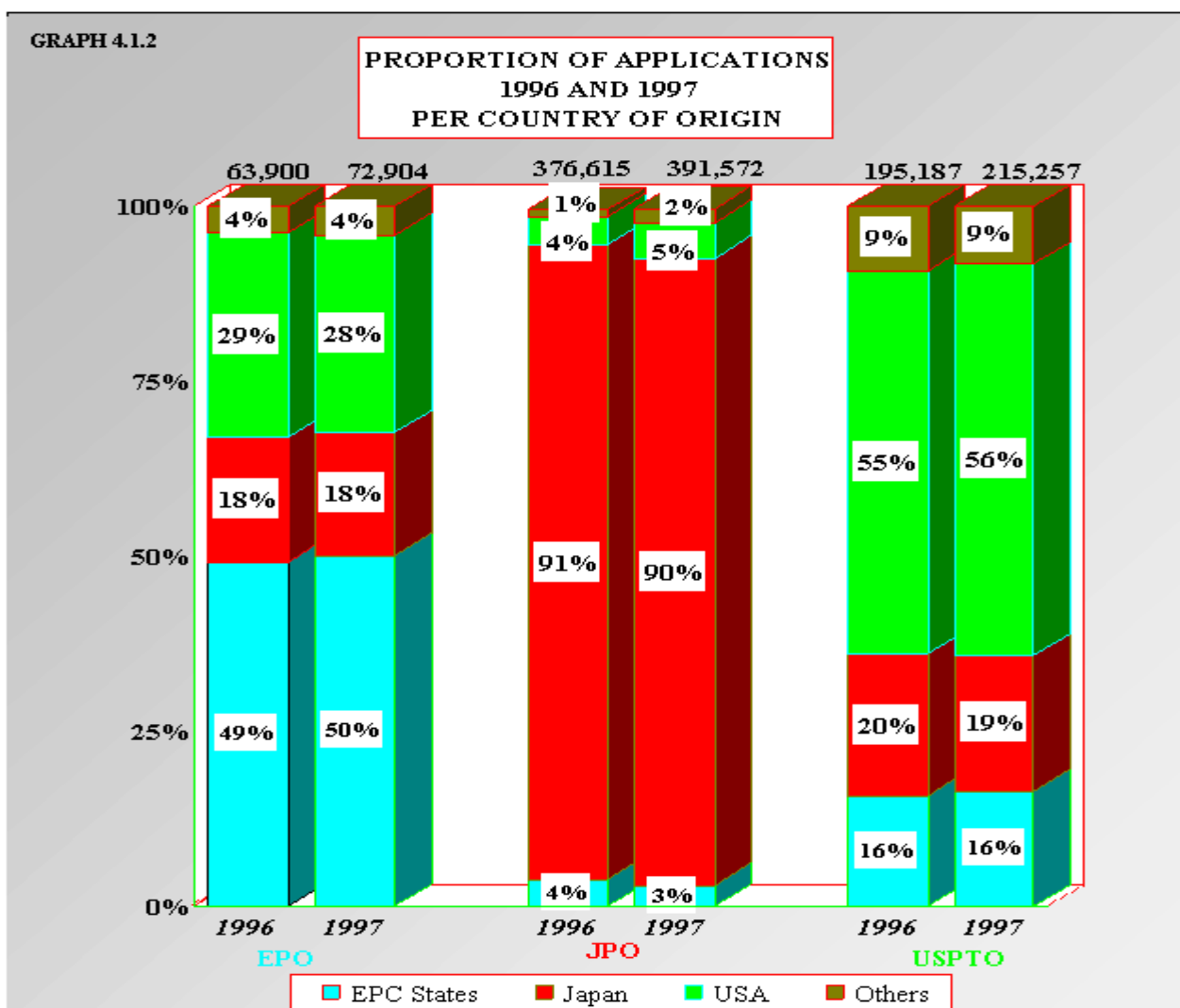
In 1997, the number of applications filed at the JPO increased by 14,957 or 4% and remains the highest. In Europe, 9,004 more applications were filed with the EPO, an increase of 14%. The number of applications at the USPTO increased by 20,070 or 10%.

As in 1996, domestic filings in the JPO form 90% of total filings; for the USPTO and the EPO they form 56% and 50% of total filings respectively. The domestic filings in the JPO and the USPTO are more or less equivalent to first filings on inventions. Domestic EPO filings are defined as the total of EPO filings by residents of EPC Member States.

Only a low proportion thereof are first filings at the EPO, which is explained by the filing practice in EPC States. 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 European protection. Consequently, the number of domestic filings at the EPO is not identical to the first filings. The first filings with the EPO from residents of EPC States were 3,775 in 1996 and 5,247 in 1997, respectively 11.9% and 14.4% of domestic European filings.

The breakdown of applications in Trilateral Offices by country of origin in 1996 and 1997 is as follows:

Compared to 1996, the share of filings from the EPC States decreased slightly in the JPO and remained stable in the USPTO. The share of filings from Japan decreased by 1% in the USPTO and remained unchanged in the EPO. The share of filings from the United States decreased by 1% in the EPO and increased by 1% in the JPO.

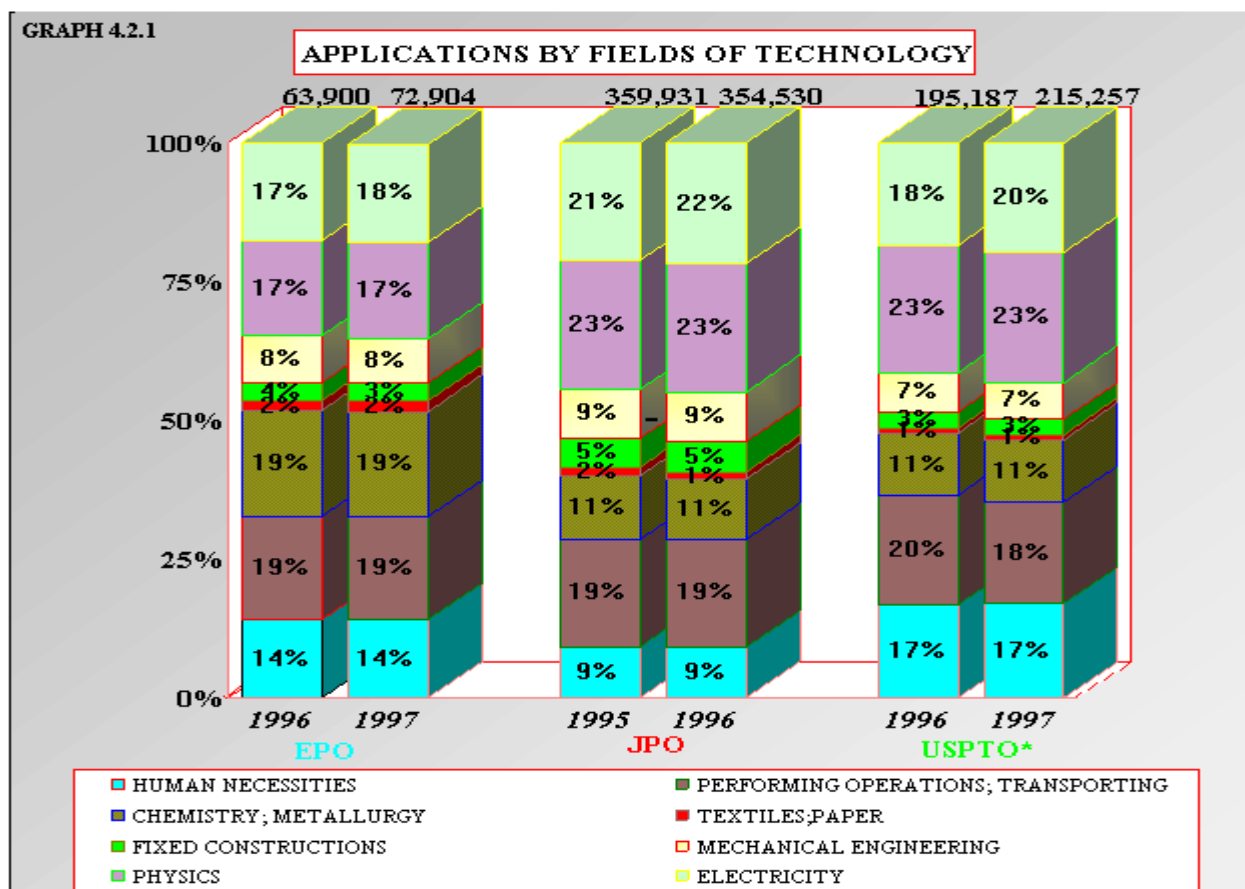


The share of filings from outside the trilateral blocs was stable in the EPO and the USPTO and increased slightly in the JPO.

4.2 APPLICATIONS BY FIELDS OF TECHNOLOGY

The breakdown of applications in the Trilateral Offices by field of technology, according to the IPC Sections A-H, is given below for the EPO and the USPTO for the filing years 1996 and 1997. For the JPO, the breakdown of published patent applications is given for the filing years 1995 and 1996. The figure for 1996 is the most recent figure because the International Patent Classification is assigned just before the publication of unexamined applications (after the expiration of 18 months from the filing date).

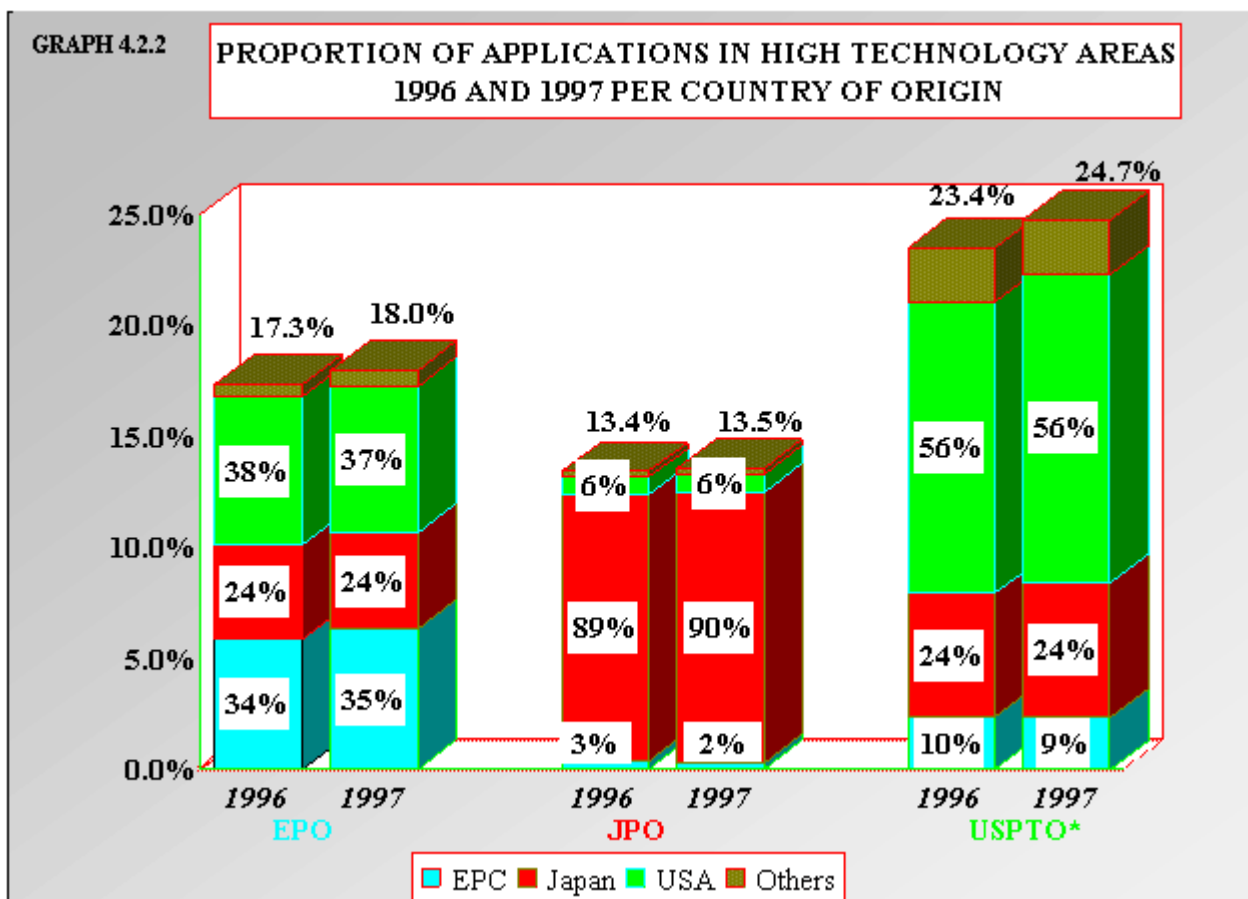
The proportion of Human Necessities is higher in the USPTO (17%) than in the EPO (14%) and in the JPO (9%). The proportion of Chemistry/Metallurgy is higher in the EPO (19%) than in the USPTO (11%) and the JPO (11%). The proportion of Physics and Electricity applications increased to 43% in the USPTO, 35% in the EPO and 45% in the JPO. In the other sections, the proportions are comparable in the three blocs.



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

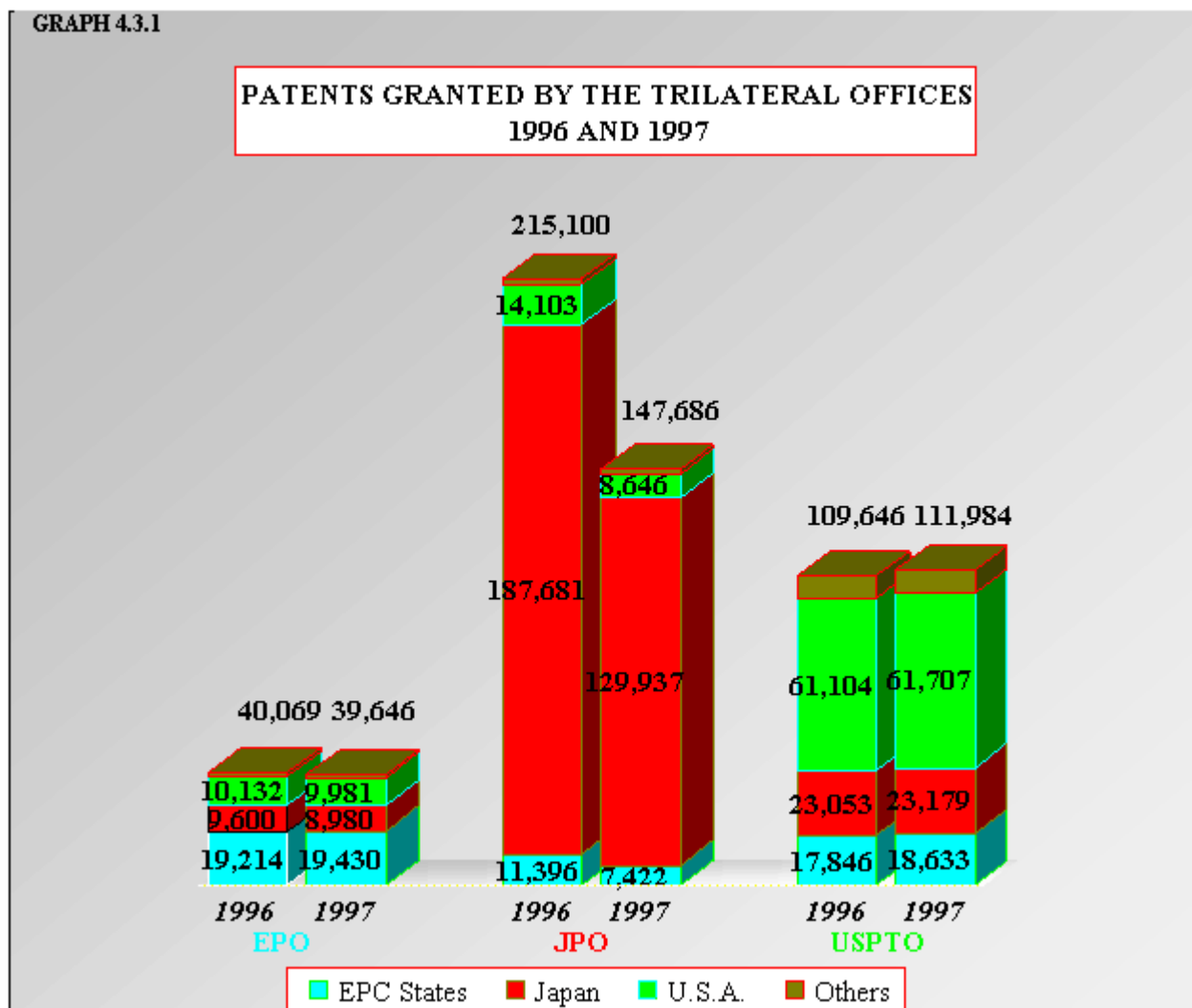
Among all applications filed at the Trilateral Offices, an increasing proportion relates to high technology areas. In the graph below, this proportion is given for each Office for applications filed in 1996 and 1997, together with their origin. The following technical fields have been defined as high technology: Computer and automated business equipment; micro-organism and genetic engineering; aviation; communications technology; semi-conductors; and lasers.

In 1997, 18% of the EPO applications were filed in these fields, 37% thereof were by United States applicants, 35% by EPC applicants and 24% by Japanese applicants. At the JPO, 13.5% of the 1997 filings related to high technologies; 90% thereof were filed by JPO applicants, 2% by EPC applicants and 6% by United States applicants. High technology represented 24.7% of all filings at the USPTO; 56% were from United States applications, 24% originated from Japan and 9% from the EPC. The high technology area share rose in 1997 in all three blocs.



The share of EPC applicants in high technology is below their share for overall 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 the same as in all filings at the USPTO and higher than in all filings at the EPO. At both offices, the Japanese applicants hold above average shares in high technology. The shares in high technology at the JPO are comparable to those for all filings. (*) As USPTO applications are classified according to the United States Patent Classification System, the breakdown according to IPC has been determined by means of general concordance between both classifications. Therefore the technical scope at the USPTO with respect to IPC may differ from the scope as presented by the EPO and the JPO.

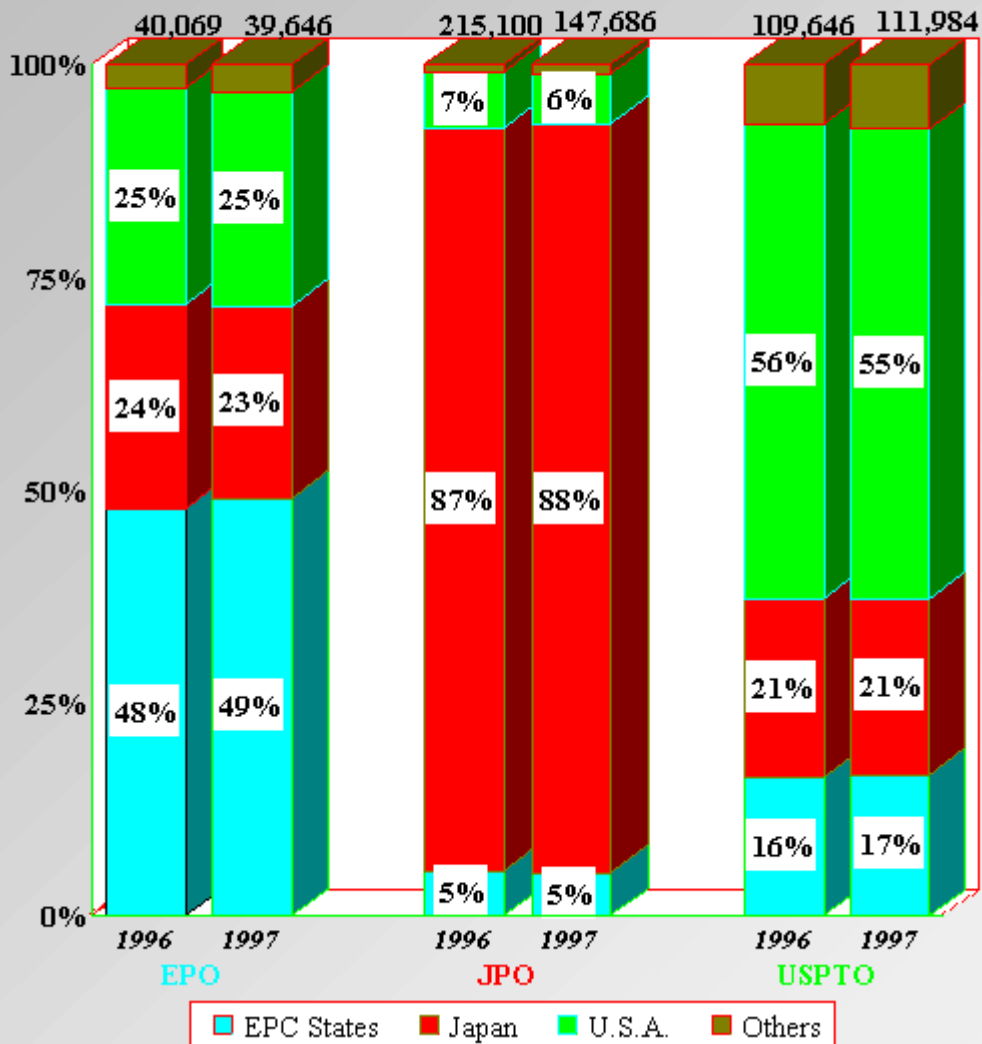
4.3 PATENTS GRANTED BY TRILATERAL OFFICE



The development in the number of patents granted by the Trilateral Offices is shown below: The number of patents granted by the JPO decreased substantively by 31% to the level of 147,686 granted patents in 1997. The JPO introduced a post-grant opposition policy in January 1996. The number of patents granted in 1996 was much higher than in any normal year, because the number for 1996 included numbers of patents granted both under the pre-grant opposition policy and under post-granted opposition policy. The patents granted by the USPTO slightly increased by 2%. There were a few less patents granted by the EPO in 1997, a reduction of 1.1%. The breakdown of patents granted in 1996 and 1997 by the 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).

GRAPH 4.3.2

PROPORTION OF GRANTED PATENTS
1996 AND 1997 PER COUNTRY OF ORIGIN

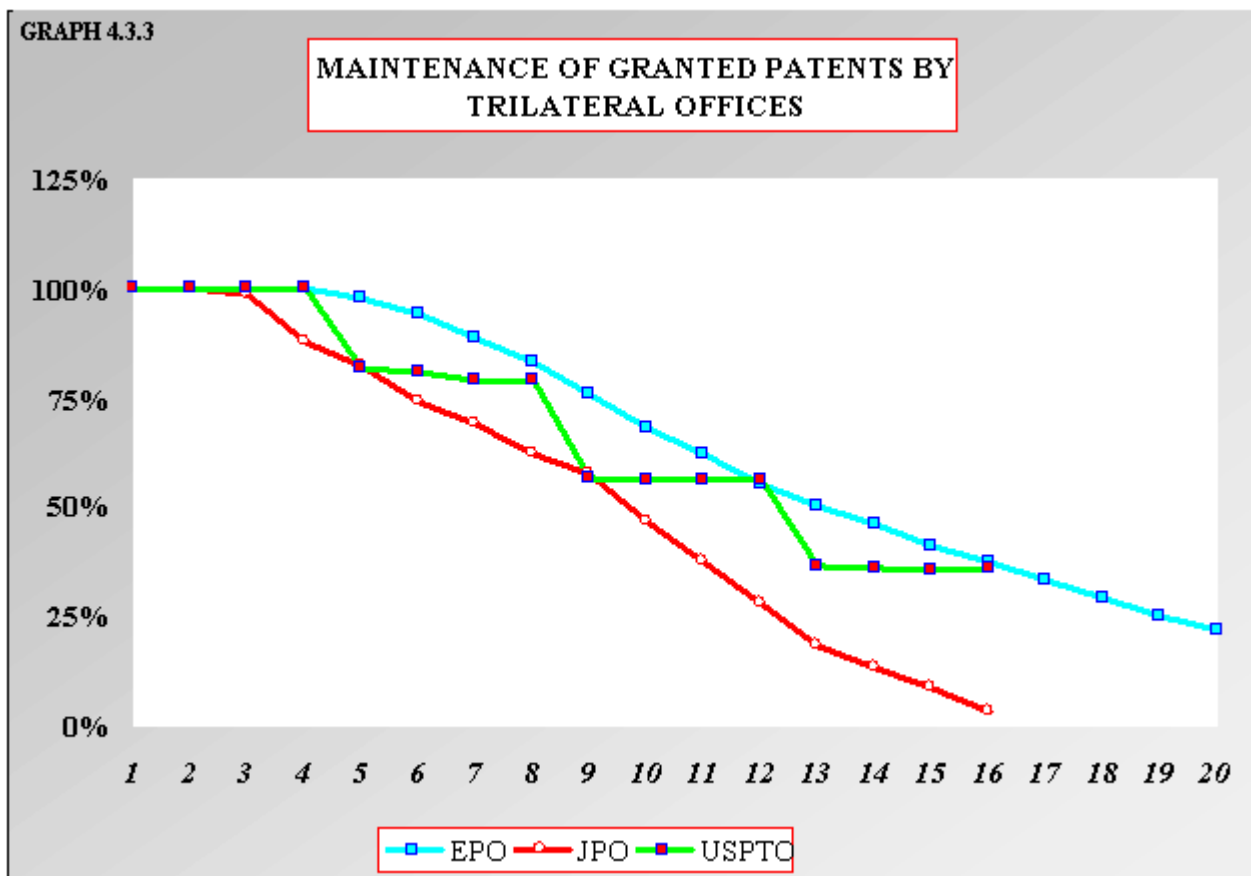


A patent granted by an office has a maximum term fixed by law. In order to maintain the protection right, the applicant has to maintain the patent by paying renewal fees in the country where protection was obtained. Maintenance systems differ from country to country

A European patent has a twenty-year term from the date of filing and a yearly renewal fee has 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.

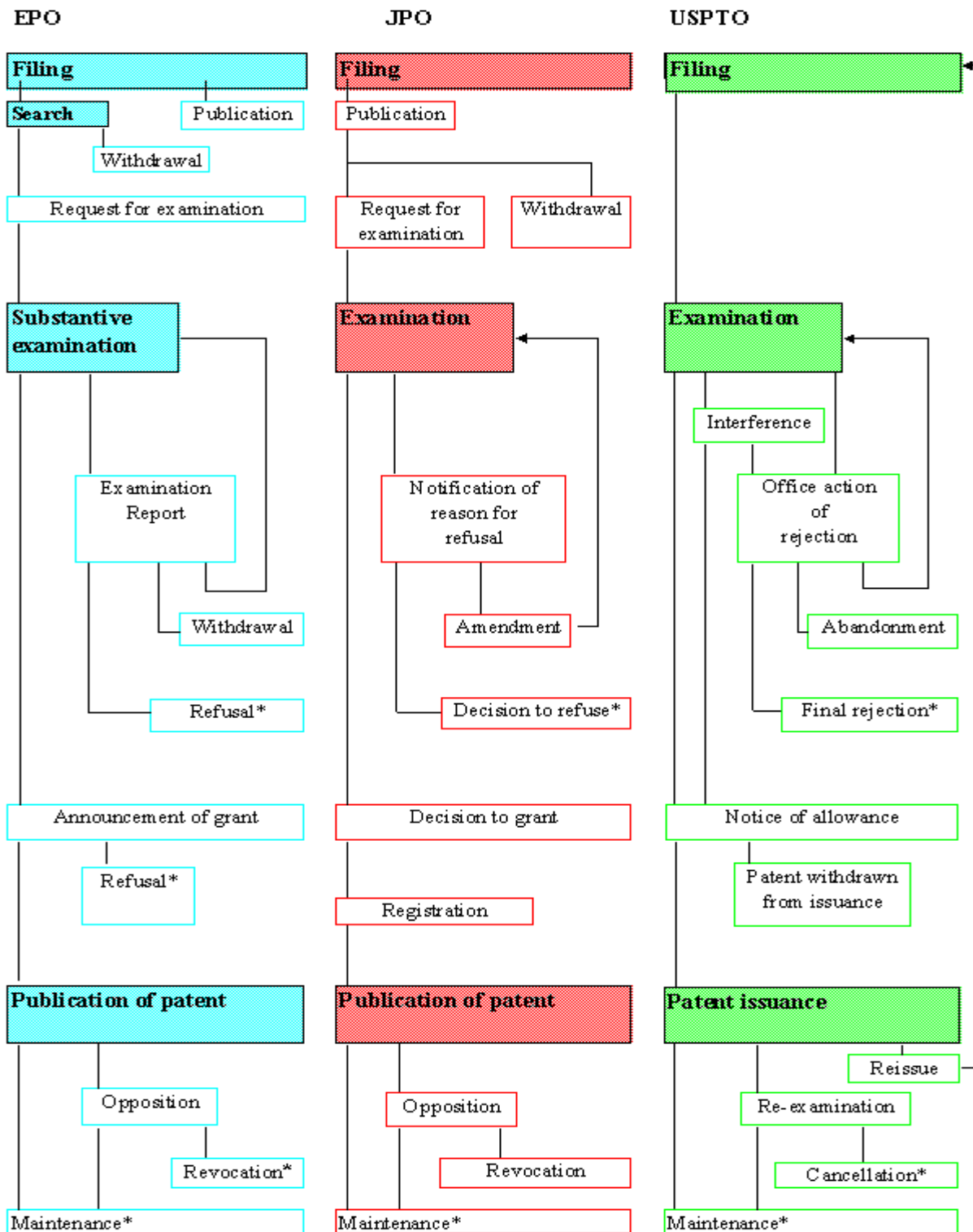
In the United States, a patent filed after June 8, 1995 has a term of 20 years from the date of earliest filing. Patent maintenance requires payment of fees in three stages: 3.5 years, 7.5 years and 11.5 years after grant.

The term of a Japanese patent is twenty years from the date of filing. The first three years fees are paid together, and for subsequent fees, the applicant can pay either yearly or in advance. In all three systems, if a renewal fee is not paid in due time, the protection right expires. The following graph indicate 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% of patents are maintained at least 12 years; 50% of EPO patents are maintained at least 13 years; and in Japan more than 50% of patents are maintained for nine years.



4.4 TRILATERAL PATENT PROCEDURES

4.4.1 The procedures



* decision may be appealed

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; second, novelty, inventiveness 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 does not imply a request for examination since 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, applications prior to grant 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: not applicable) by the applicant. In addition, if no request for examination for an application is filed at 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 of the date of publication. 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 certain 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 examiner first studies the argument brought forward by the appellant and decides whether the application should be allowed. If not, the case is forwarded to a Board of Appeals, which may take a final decision or refer the case back to the examiner.

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 a case where 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 the appeal examiners who may make a final decision.

4.4.2 Statistics on procedures

The 1996 and 1997 values of the basic characteristics of Trilateral Office 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 among 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 68%.

In the JPO the grant rate is 65%.

In the USPTO the grant rate is related to the decisions made in the examination procedure, and is stable at a level of 69%.

The opposition rate in the EPO is 6.3%, and the maintenance rate in the opposition is 68.5%.

In the EPO 405 appeals were received in 1997 i.e. about 51% of decisions in examination to reject the application (792). In the USPTO 4,328 appeals were received being 6.7% of final rejections (64,095).

In the EPO 42% of appealable decisions in the opposition procedure (2,493 in 1997) are appealed against, with the number of appeals being 1,000.

The total number of appeals in the JPO against decisions in examination, including decisions to applications against which oppositions had been filed, was in 1997 at 13,742 above the 1996 figure (13,667).

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 of 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) and responding to Office actions communicated to the applicant.

The pendency in search in the EPO increased substantially from 1996 to 1997 in numbers from 47,300 to 57,900 (22%) and in months from 14.7 to 17.2.

The number of pending applications awaiting a request for examination by the applicant decreased in the EPO from 11,200 to 11,100 (-0.9%).

In the JPO this number is substantively higher (about 2,143,765) than those in the EPO, due to the long period (seven years from the date of filing) during which requests for examination can be filed. As the number of pending applications in examination increased in the EPO (to about 127,000 in 1997) the pendency in months was increased slightly to 29.3 months. In the USPTO the average time for either abandoning or issuing an application is about 22.9 months.

In the JPO the pendency to first office action in months was about 21 months, which indicates the average time from a request for examination to first office action in examination.

For the EPO the pendency to first office action in months was about 15.8 months.

In the USPTO the pendency to first action on the merits was about 10.4 months, which indicates the average time an examiner either formally rejects or allows the claims in a patent application.

Pendency in opposition slightly increased in the EPO to 17.9 months.

Table 4.4.2: STATISTICS ON PROCEDURES

Actual figures have been rounded up. (Definitions are given in the Annex)

Procedure	Year	EPO	JPO	USPTO
Examination Rate (%)	1996	91	45	100
	1997	91	47	100
Grant Rate (%)	1996	67	n.a.	67
	1997	68	65	69
Opposition Rate (%)	1996	6.2	n.a.	-
	1997	6.3	4.3	-
Maintenance Rate (%)	1996	67.0	n.a.	-
	1997	68.5	n.a.	-
<u>Appeal Rate</u>				
- on examinations (%)	1996	48	-	5.4
	1997	51	-	6.7
- on oppositions (%)	1996	41	-	-
	1997	42	-	-
- on examinations and oppositions ¹	1996	-	13,667	-
	1997	-	13,742	-
<u>Pendency</u>				
Pending applications in search	1996	47,300	-	-
	1997	57,900	-	-
Pendency search in months	1996	14.7	-	-
	1997	17.2	-	-
Applications awaiting request for examination	1996	11,200	2,148,126	-
	1997	11,100	2,143,765	-
Pending applications in examination	1996	120,200	n.a.	290,500
	1997	127,000	n.a.	267,662
Pendency first office action in months	1996	15.6	22.0	10.1
	1997	15.8	21.0	10.4
Pendency examination in months	1996	24.4	n.a.	21.5
	1997	29.3	n.a.	22.9
Pending applications in opposition	1996	3,720	n.a.	-
	1997	3,730	n.a.	-
Pendency opposition in months	1996	16.9	n.a.	-
	1997	17.9	n.a.	-

Legend for Table 4.4.2

n.a. not available

- not relevant for that Office

¹. For JPO only numbers are available.