

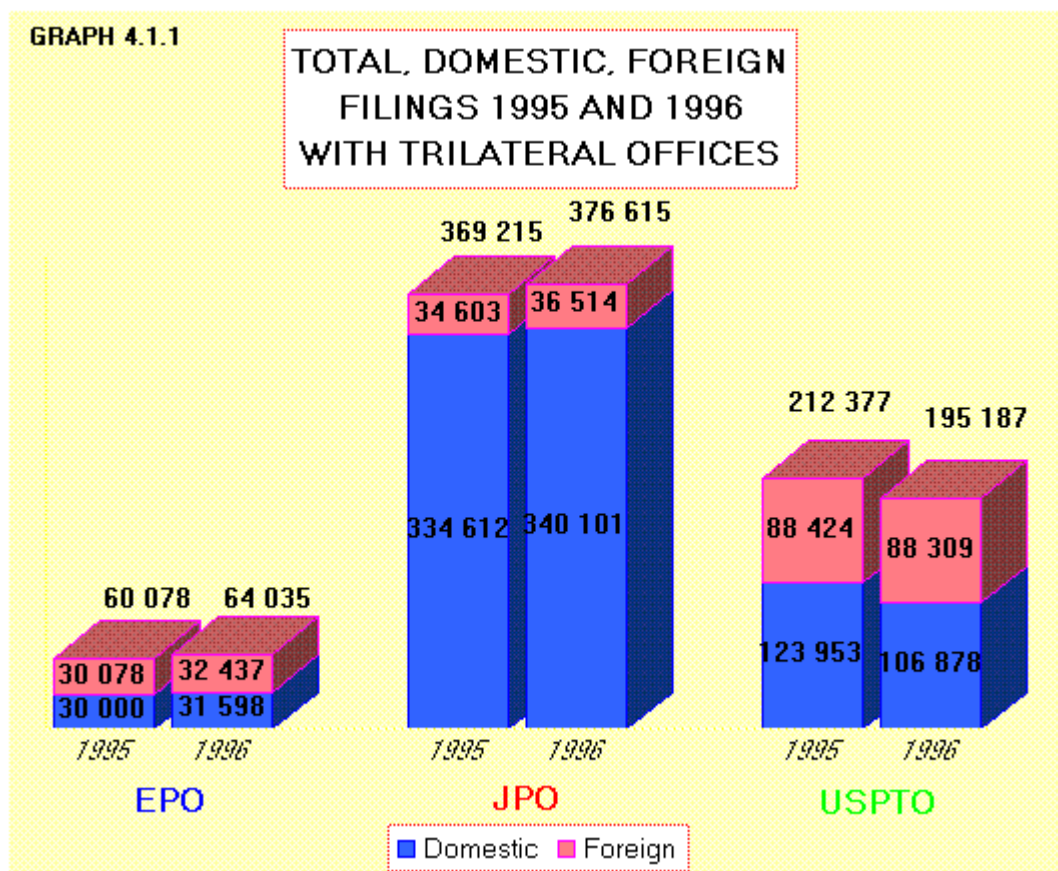
4. Demand at trilateral offices

Demand at Trilateral Offices is demonstrated by statistics on patent applications. They are counted at the date of filing if direct national, for Japan and USA, and regional for European applications. For international 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, both direct applications 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

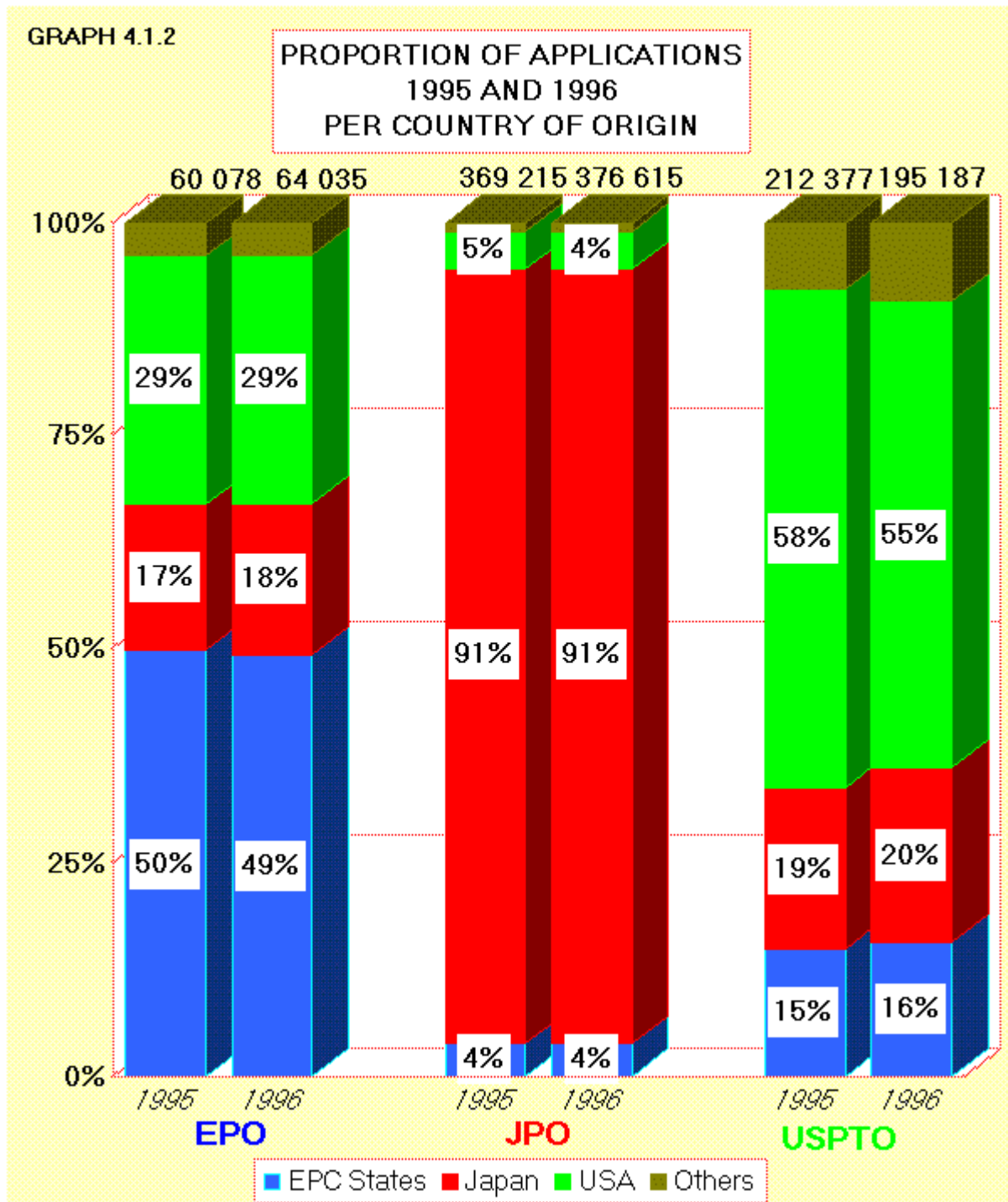
The number of domestic and foreign applications filed with the Trilateral Offices for the years 1995 and 1996 is shown in the graph below:



The number of applications at the JPO increased by 7 400 or 2% and remains the highest. Around 4 000 more applications were filed with the EPO, an increase of 6.5%. Half way between the JPO and EPO, the number of applications at the USPTO decreased by 17 000 or 8%.

As in 1995, domestic filings in the JPO form 90% of total filings; for the USPTO and the EPO they form 55% and 49% 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 worth 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 3 141 in 1995 and 3 770 in 1996, respectively 10.5% and 11.9% of domestic European filings.

The breakdown of applications in Trilateral Offices by country of origin in 1995 and 1996 is as follows:

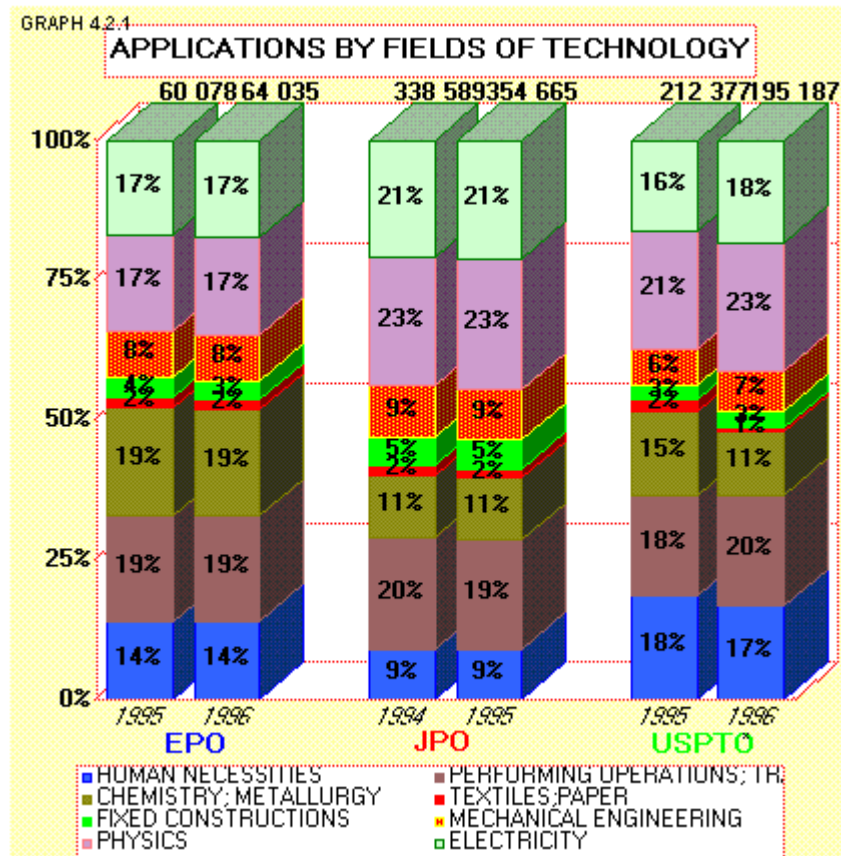


Compared to 1995, the share of filings from EPC increased slightly in the USPTO and remained unchanged in the JPO. The share of filings from Japan increased by 1 % both in the EPO and the USPTO. The share of filings from the USA remained unchanged in the EPO, but decreased by 1 % in the JPO. The share of filings from outside the trilateral blocs was stable in the JPO, EPO, and USPTO.

4.2 APPLICATIONS BY FIELDS OF TECHNOLOGY

The breakdown of applications in 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 1995 and 1996. For the JPO the breakdown of published patent applications is given for the filings years 1994 and 1995. The figure for 1995 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 in the USPTO increased to 41% of all applications, it is stable at a level of 34 % in the EPO and 44 % in the JPO. In the other sections, the proportion are comparable in the three blocs.



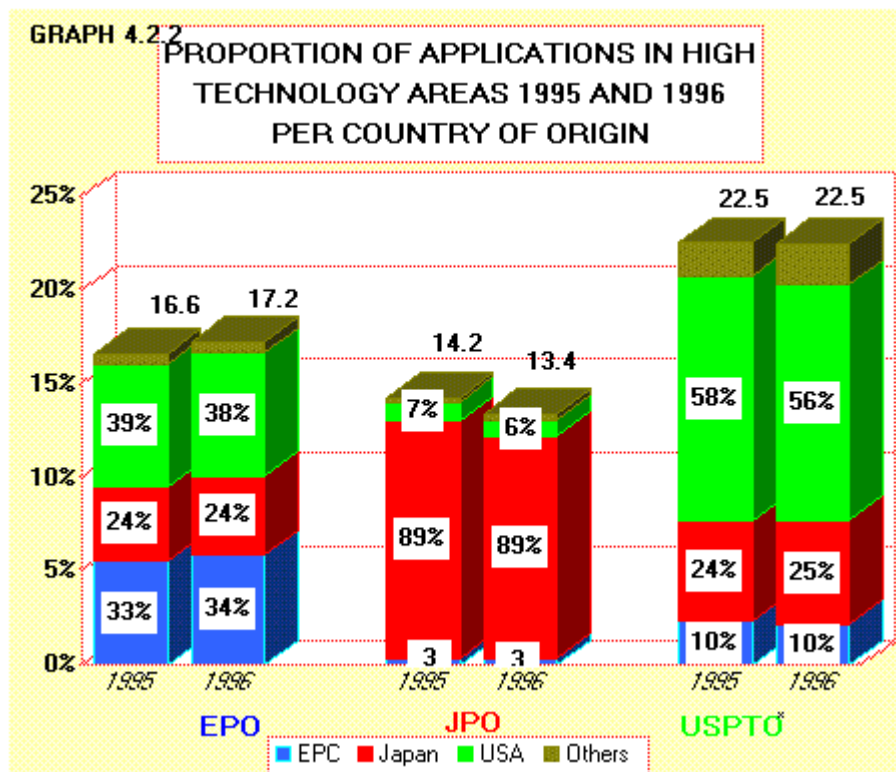
(*)As USPTO applications are classified according to the US Patent Classification System, the breakdown according to IPC has been determined by means of general concordance between both classifications. Therefore the technical scope at the USPTO with respect to IPC may differ from the scope as presented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

Among all applications filed at the Trilateral Offices, an increasing proportion relate to high technology areas. In the graph below, this proportion is given for each office for applications filed in 1995 and 1996, 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 1996, 17.2% of the EPO applications were filed in these fields, 38 % thereof were by US applicants, 34% by EPC applicants and 24 % by Japanese applicants. At the JPO, 13.4% of the 1996 filings related to high technologies; 89% thereof were filed by JP applicants, 3% by EPC applicants and 6% by US applicants. High technology represented 22.5% of all filings at USPTO; 56% were from US applications, 25% originated from Japan and 10% from the EPC. The high technology area share rose in 1996 at the EPO and decreased at the JPO.

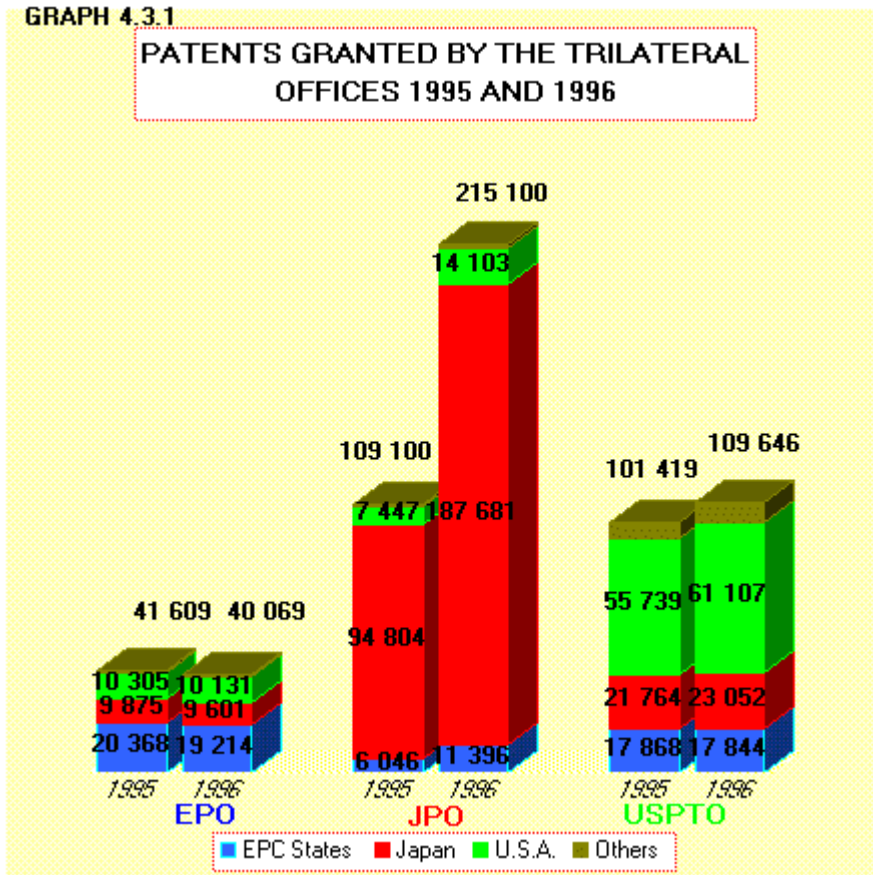
The share of EPC applicants in high technology is below their share for overall filings as given in graph 4.2.2 at the EPO and at the USPTO. The share of US applicants in high technology is the same as in all filings at the USPTO and higher than in all filings at the EPO. At both offices, the Japanese applicants hold more shares in high technology than on average. The shares in high technology at the JPO are comparable to those for all filings.



(*)As USPTO applications are classified according to the US 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 EPO and JPO.

4.3 PATENTS GRANTED BY TRILATERAL OFFICE

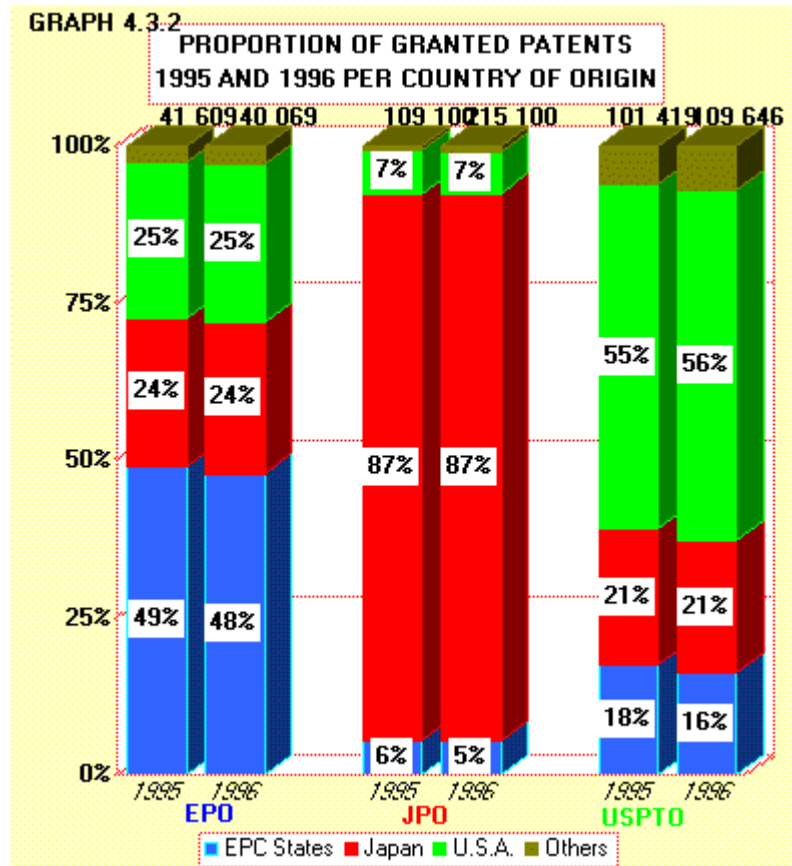
The development in the number of patents granted by Trilateral Offices is shown below:



The number of patents granted by the JPO increased substantively by 97 % to reach the highest ever level with 215 100 granted patents in 1996. The patents granted by the USPTO increased by 8 %. There were a few less patents granted by the EPO in 1996, a reduction of 3.7 %.

The breakdown of patents granted in 1995 and 1996 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 prolong the protection right, the applicant has to maintain the patent by paying renewal fee in the country where protection was obtained. Maintenance systems differ from country to country

A European patent has a twenty years 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 US, 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.

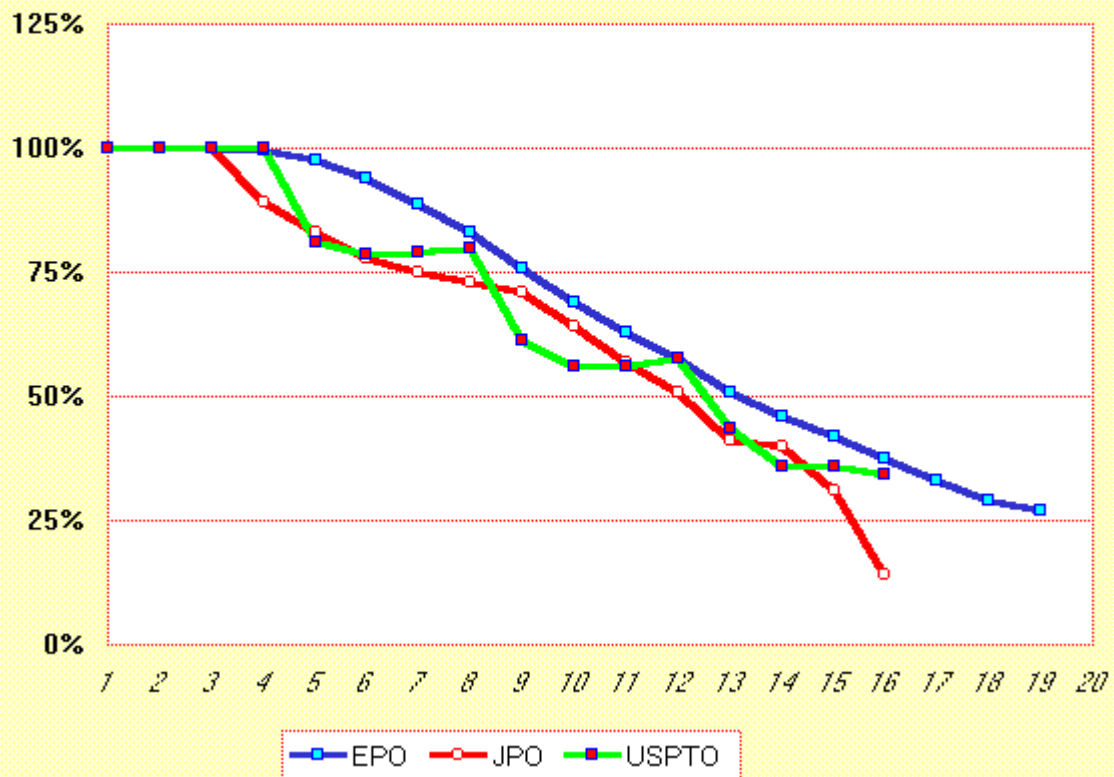
The term of a Japanese patent is twenty years from the date of filing. The first three year's fees are paid together, and for subsequent fees, the applicant can either pay yearly or in advance.

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

The following graph indicates for the granted patents, the proportion of those which were maintained in each patent year (from filing for the EPO and the JPO, and grant for USPTO). In Japan and US more than 50 % are maintained at least 12 years. 50% of EPO patents are maintained at least 13 years.

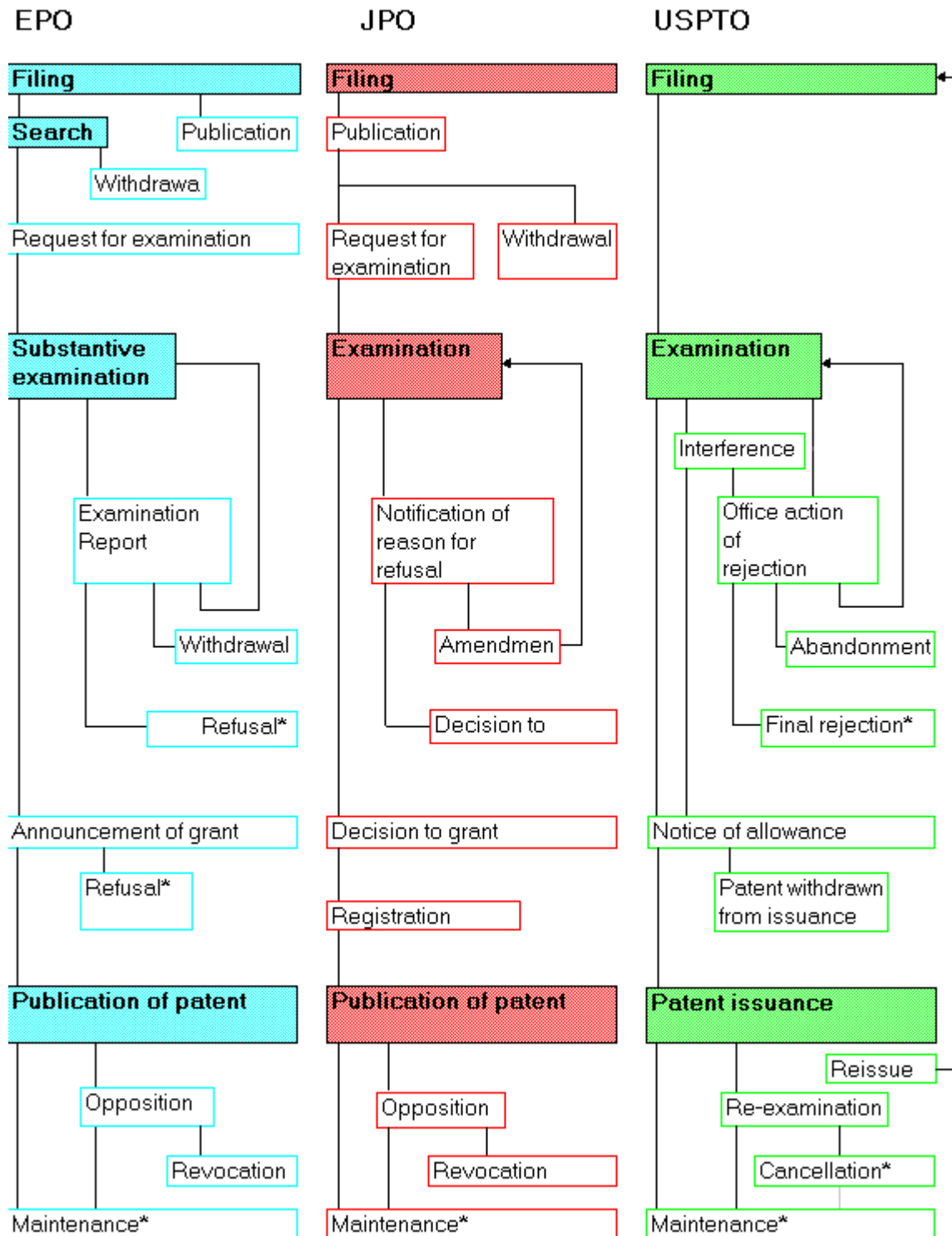
GRAPH 4.3.3

MAINTENANCE OF GRANTED PATENTS BY TRILATERAL OFFICES



4.4 TRILATERAL PATENT PROCEDURES

4.4.1 The procedures



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 anytime 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 a 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, since the first one does not involve opponents and the second one may be requested during the whole life-time of a granted patent by third parties or by the patentee.

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 if the decision can 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 1995 and 1996 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 1.0 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 67%.

In the USPTO the grant rate is related to the decisions made in the examination procedure is stable at a level of 67%.

The opposition rate in the EPO is 6.2% , and the maintenance rate in the opposition is 67.0%.

In the EPO 388 appeals were received in 1996 i.e. about 48% of decisions in examination to reject the application (815). In the USPTO 3 500 appeals were received being 5.4% of final rejections (63 754).

In the EPO 41% of appealable decisions in the opposition procedure (2643 in 1996) are appealed against, the number of appeals being 1076.

The total number of appeals in the JPO against decisions in examination, including decisions to applications against which oppositions had been filed, was in 1996 at 13 700 below the 1995 figure (19 200).

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 (can take seven years from the date of filing in the JPO) and responding to Office's actions communicated to the applicant.

The pendency in search in the EPO increased substantially from 1995 to 1996 in numbers from 50 200 to 59 600 (19%) and in months from 14.7 to 18.6.

The number of pending applications awaiting a request for examination by the applicant decreased in the EPO from 12 100 to 11 200 (-7%).

In the JPO this number is substantively higher (about 2 148 126) 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.

As the number of pending applications in examination decreased in the EPO (to about 120 200 in 1996) the pendency in months was slightly decreased to 24.4 months. In the USPTO the average time for either abandoning or issuing an application is about 21.5 months.

In the JPO the pendency first office action in months was about 22 months which indicates the average time from request for examination to first office action.

Pendency in opposition was reduced in the EPO to 16.9 months.

* The JPO is currently developing a system for statistics in order to adapt new patent procedures with post - grant opposition. However, the new system has not yet completed, some of the figures are not provided in this 1996 TSR.

Table 4.4.2 : STATISTICS ON PROCEDURES

Actual figures have been rounded up.

(Definitions are given in the Annex)

Rates (%)		EPO	JPO	USPTO
examination	1995	91	48	100
	1996	91	45	100
grant	1995	67	63	63
	1996	67	n.a.	67
opposition	1995	6.5	6.9	n.a.
	1996	6.2	n.a.	n.a.
maintenance	1995	67.4	60.7	n.a.
	1996	67.0	n.a.	n.a.
appeal : - examinations	1995	45	n.a.	7.0
	1996	48	n.a.	5.4
- oppositions	1995	39	n.a.	n.a.
	1996	41	n.a.	n.a.
- examinations and oppositions ¹	1995	n.a.	19 223	n.a.
	1996	n.a.	13 667	n.a.
Pendency		EPO	JPO	USPTO
pending applications in search	1995	50 200	n.a.	n.a.
	1996	59 600	n.a.	n.a.
pendency search in months	1995	14.7	n.a.	n.a.
	1996	18.6	n.a.	n.a.

applications awaiting request for examination	1995	12 100	2 145 159	n.a.
	1996	11 200	2 148 126	n.a.
pending applications in examination	1995	124 000	394 405	281 637
	1996	120 200	n.a.	290 500
pendency examination in months	1995	24.7	24	19.5
	1996	24.4	n.a.	21.5
pendency first office action in months	1995	n.a.	n.a.	n.a.
	1996	n.a.	22	n.a.
pending applications in opposition	1995	3 760	14 976	n.a.
	1996	3 720	n.a.	n.a.
pendency opposition in months	1995	18.5	33.7	n.a.
	1996	16.9	n.a.	n.a.

¹ 1) For JPO only numbers are available