

## Chapter 3

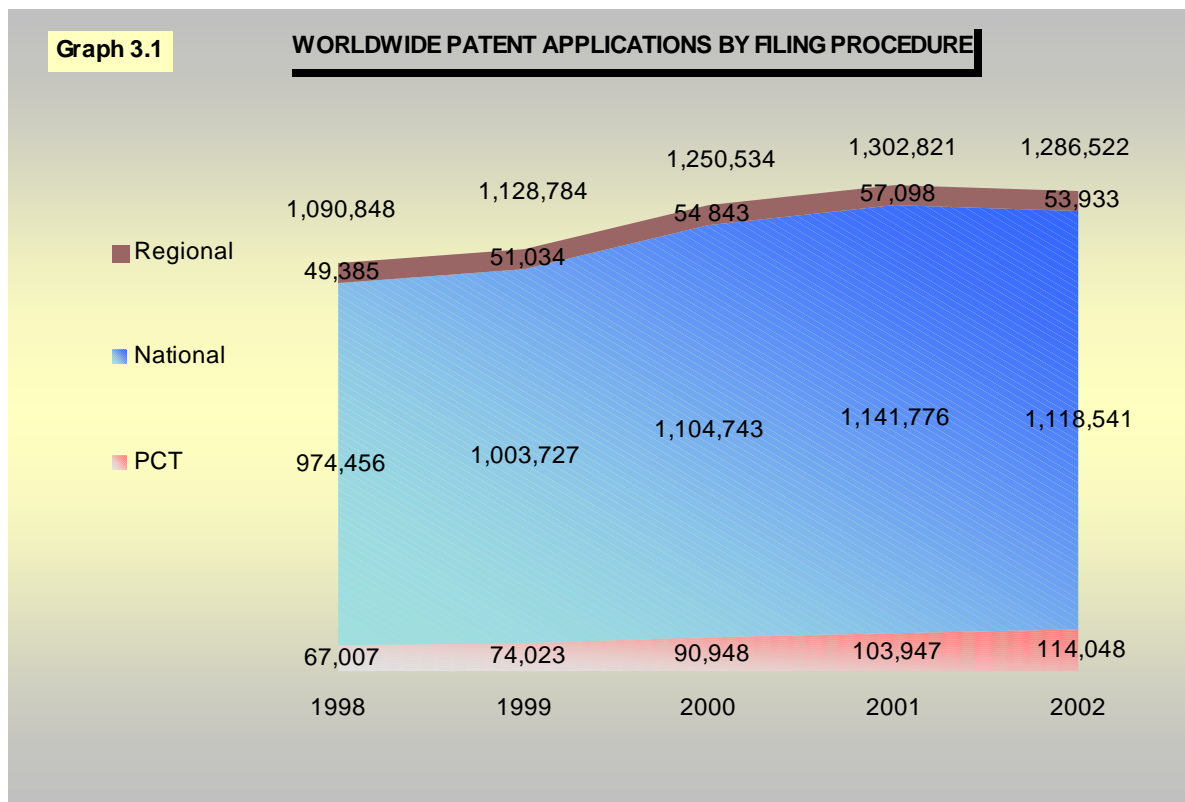
# WORLDWIDE PATENTING ACTIVITIES

Although the Trilateral offices represent a significant proportion of total patents worldwide, the global picture is not complete without including all other offices from around the world. This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics cover a five-year period from 1998 to 2002. Data for the year 2002 are the most current available for worldwide patent filings. More current and detailed data sets from the Trilateral offices are presented in Chapter 4.

Applications reported in this chapter are counted by the calendar year of filing and grants by the calendar year of granting. For supranational applications, it is possible to file a single application that designates a number of member states, and the subsequent grants become a bundle of national patents in the various designated countries. Applications presented in the graphs and statistics of this chapter are only counted once, but where relevant, parallel graphs and statistics are also presented for patent rights.

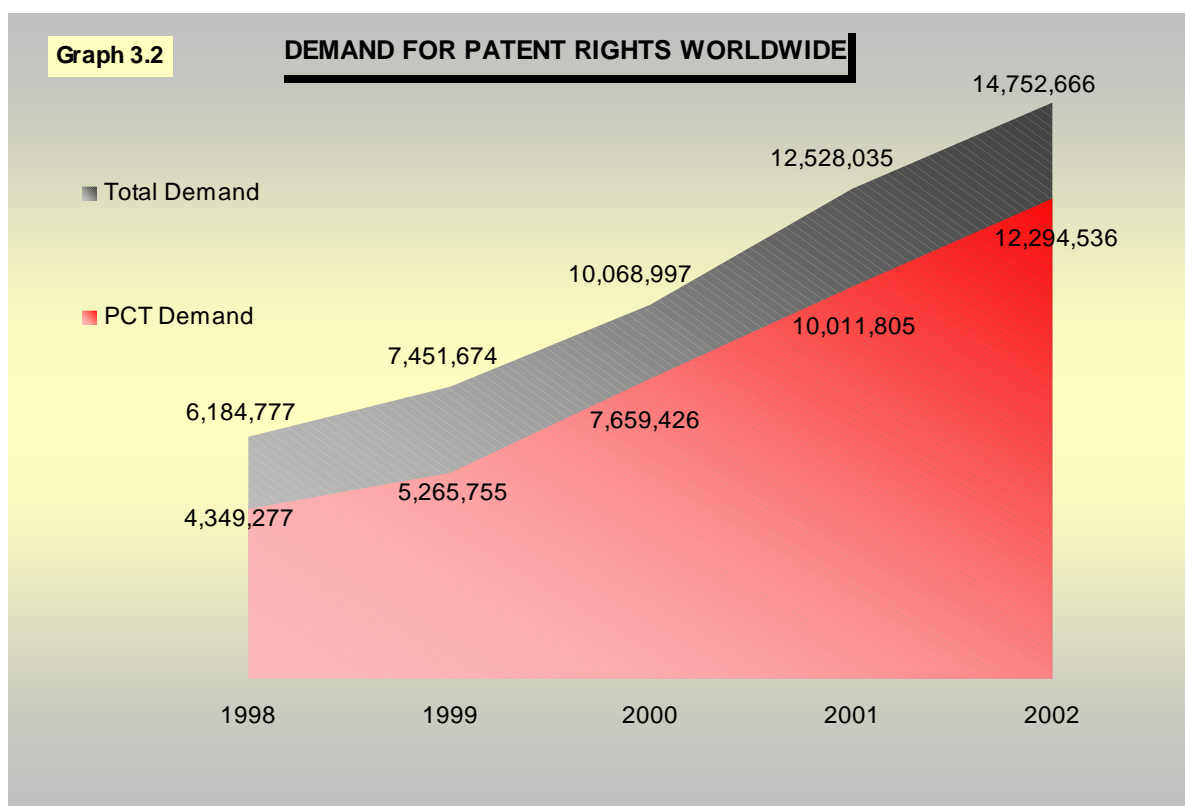
## PATENT APPLICATIONS FILED

The data in Graph 3.1 below show the number of applications filed all over the world.



There were a total of 1,286,522 filings worldwide in 2002. This represents an average compound rate of increase of 4.2% per year since 1998. The peak annual rate of 10.8% occurred in 2000. Since that time, the rate continued to weaken, and by 2002, the trend had actually reversed with filings dropping by 1.3% from the previous year. A resumption of growth in filings seems likely in 2003 and future years, but growth in the near future will likely be at a slower pace as compared to recent years. Though most of the applications were filed according to national procedures (87% in 2002), an increasing proportion was made via the PCT, offering applicants a broader range of options.

Graph 3.2 below shows the development of the worldwide demand for patent rights including cumulated supranational designations.



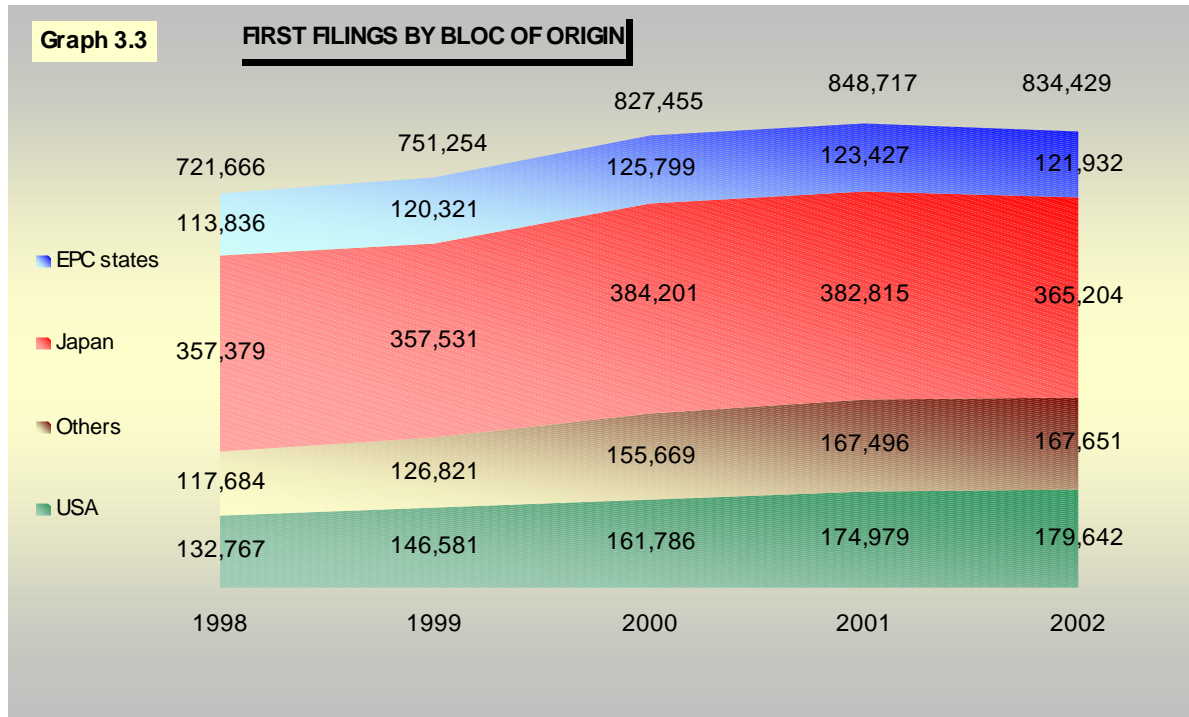
Demand for patent rights has been increasing at an average compound rate of 24.3% up through the year 2002. A new record high was reached in 2002 when the total was 14,752,666, with 83.3% of filings designating multiple countries via the PCT route.

Although most of the applications were filed according to national procedures, a large part of the demand arises from multiple designations under the PCT system. On average, in 2002, 11.5 designations were made for each application. In 1998, the comparable figure was only 5.7 designations for each application.

# PATENT ACTIVITY BY BLOCS

## FIRST FILINGS

The process of patent protection starts with a first filing, an initial patent application made to protect an invention or an innovation prior to any subsequent filing to extend the protection to other countries. The development of first filings in the major filing blocs is shown in Graph 3.3.

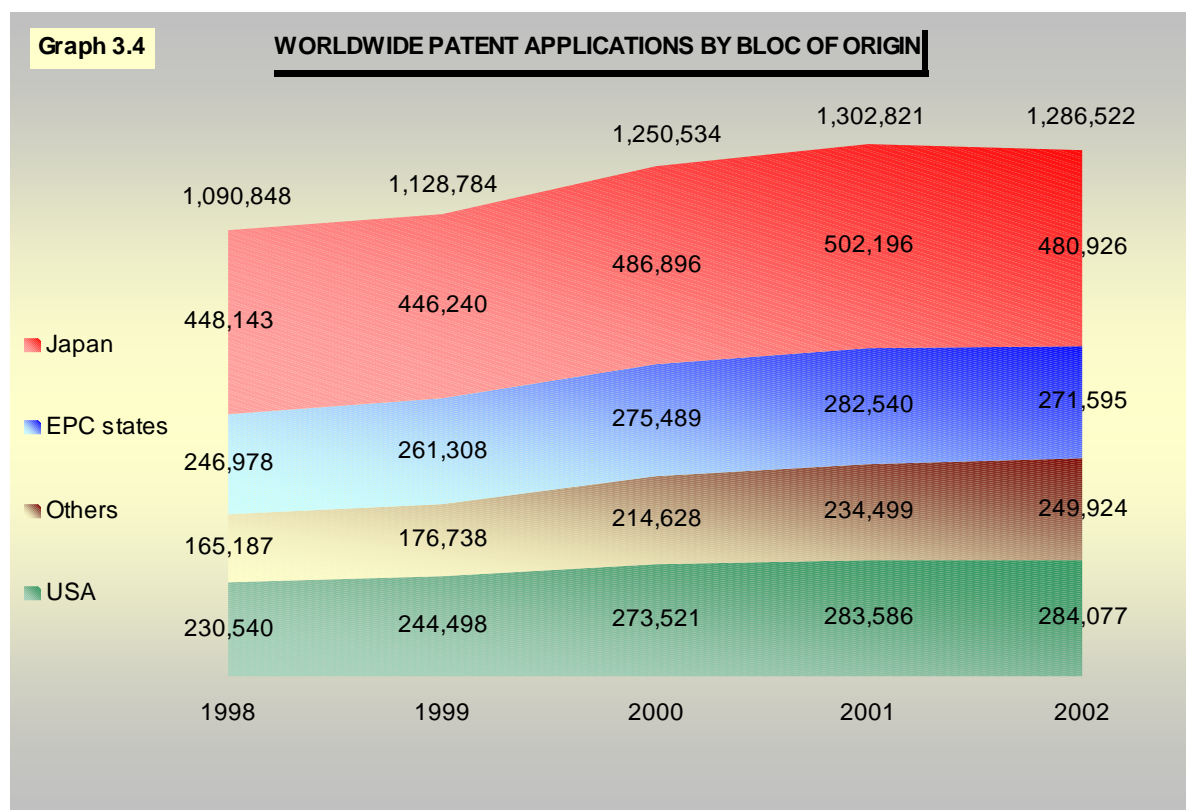


First filings have been increasing steadily. The peak annual rate of 10.1% during the 1998 to 2002 period occurred in 2000. A slowdown has occurred since that time, with the rate increasing by only 2.6% from 2000 to 2001 and actually dropping by 1.7% in 2002. Once again, Japan recorded the highest number of first filings in 2002, but the figure of 365,204 represents another decrease, with a peak occurring in 2000 when the total was 384,201. The EPC contracting states have experienced a slight decline in filings in 2002, and the USPTO has recorded a further increase in the numbers of filings. The first filings in the bloc “Others” managed to increase slightly from 167,496 in 2001 to 167,651 in 2002.

The total number of first filings in 2001 was 848,717. From these first filings, one year later, in 2002, 452,093 subsequent filings were registered. Thus, on average, one invention for which one first filing was made led to 0.53 subsequent applications. Considering the demand for patent rights generated by one first filing, for one invention a first filing in 2001 led to 16.4 subsequent applications for patent rights. Three years ago, the rate was at 9.3. This shows the ongoing internationalization of the patent system.

## ORIGIN OF THE APPLICATIONS

Graph 3.4 shows the worldwide numbers of applications, categorized by the blocs of origin of the applicants.

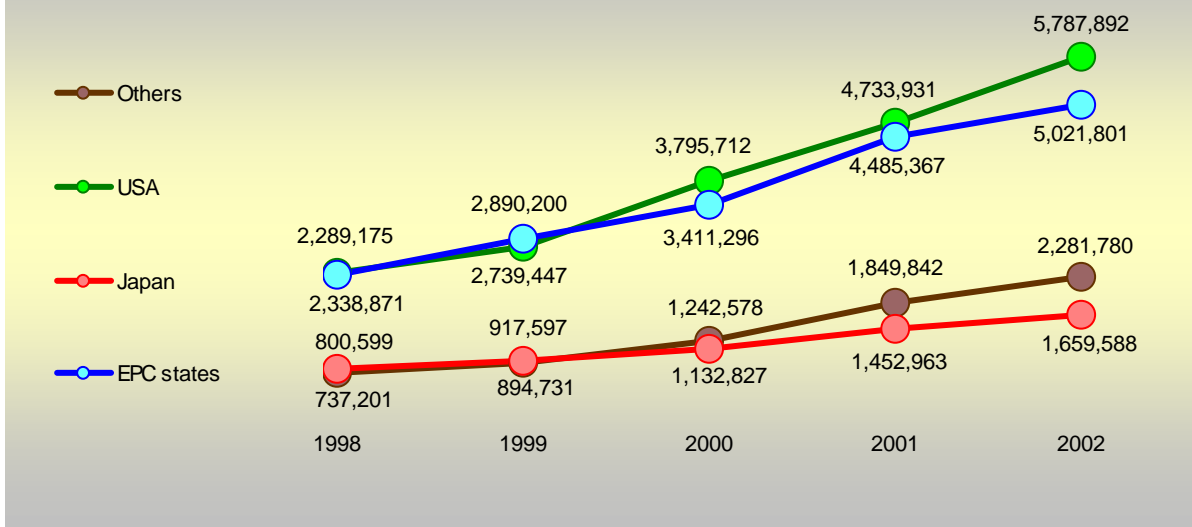


The number of filings worldwide decreased by 1.3% from 2001 to 2002. However, filings from the US and other blocs continued to increase slightly in 2002. Filings from Japan and the EPC contracting states reversed direction in 2002, decreasing by 4.2% and 3.9%, respectively. Filings from nations other than Japan, the US, and those in Europe (“Others”) saw an increase of 6.6% from 2001 to 2002. In 2002, 118 offices reported basic figures. As reflected in the fact that there were 178 WIPO member nations in 2002, the number of reporting offices changes from year to year. It is therefore advisable to draw conclusions with caution when comparing statistical data on a year-to-year basis.

Graph 3.5 shows the origin of the demand for patent rights including cumulated designations. Although the demand from residents in Japan and the EPC contracting states is increasing, the demand from residents in the US and “Others” is increasing at an especially high rate. The demand from US residents increased by 22.3% in the year 2002. Demand from “Others” increased by 23.4% in 2002.

Graph 3.5

WORLDWIDE DEMAND FOR PATENT RIGHTS BY BLOC OF ORIGIN



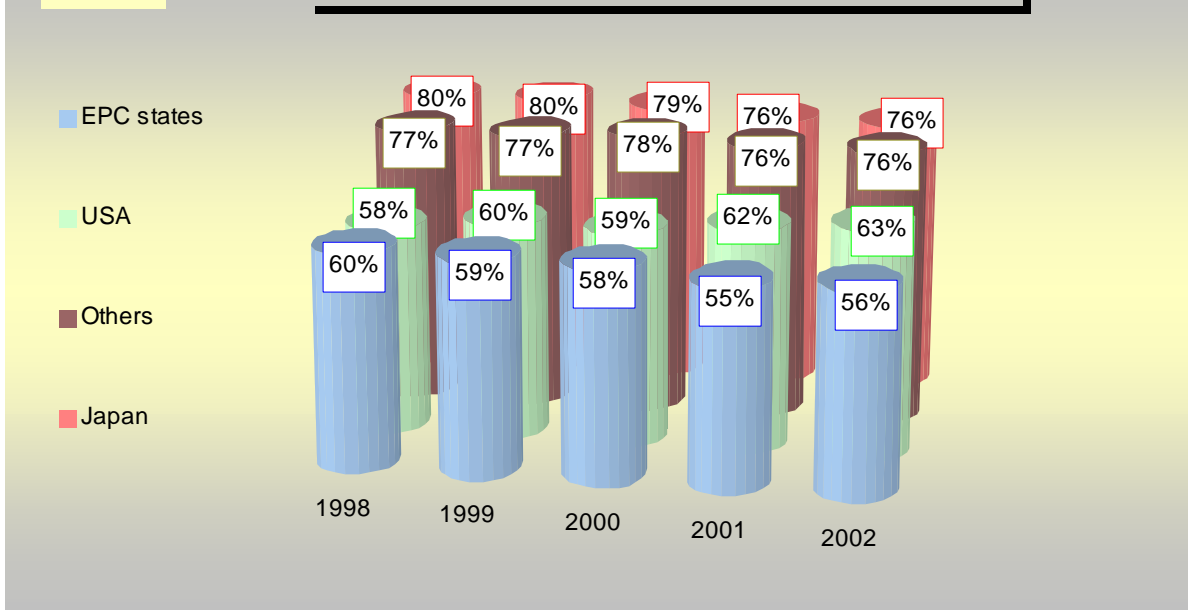
### TARGETS OF THE APPLICATIONS

Although the first filing is generally made in the country of residence and subsequent applications are made to protect the innovation abroad, a substantial part of the applications remain in the bloc of origin. Graph 3.6 shows, for applications made throughout the world by the residents of each bloc, the proportions of those applications that were made in the bloc of origin<sup>1</sup>.

The proportion of applications made in the bloc of origin is highest in Japan and “Others”, followed by the US and the EPC contracting states. A declining trend can be seen for Japan and for EPC contracting states up to 2001. The US shows no clear trend.

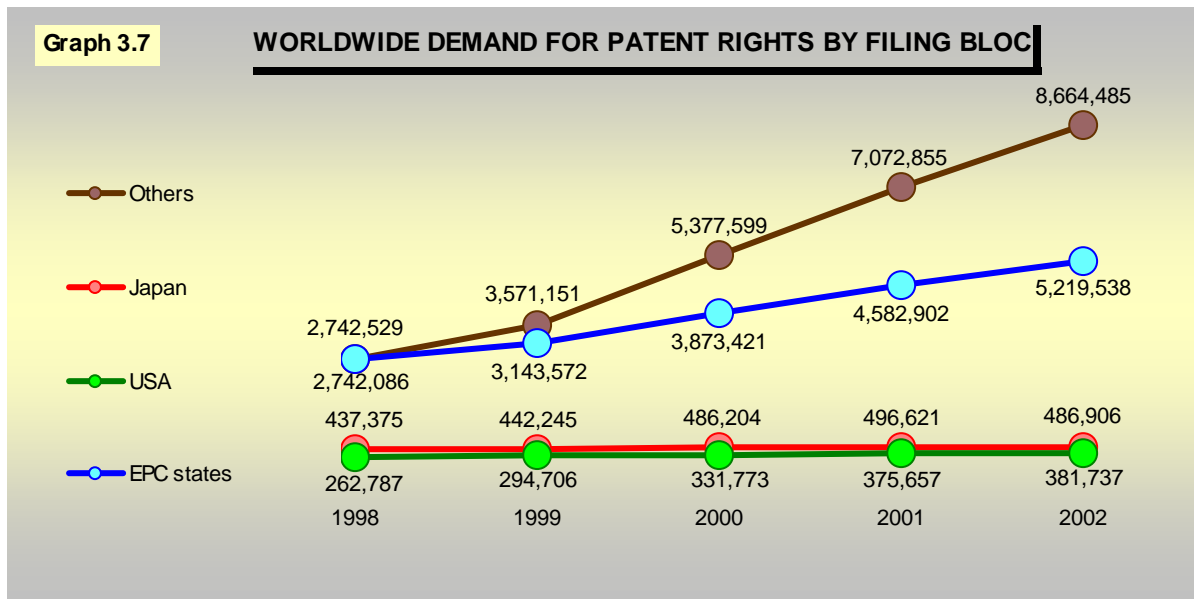
Graph 3.6

PROPORTION OF APPLICATIONS MADE IN THE BLOC OF ORIGIN



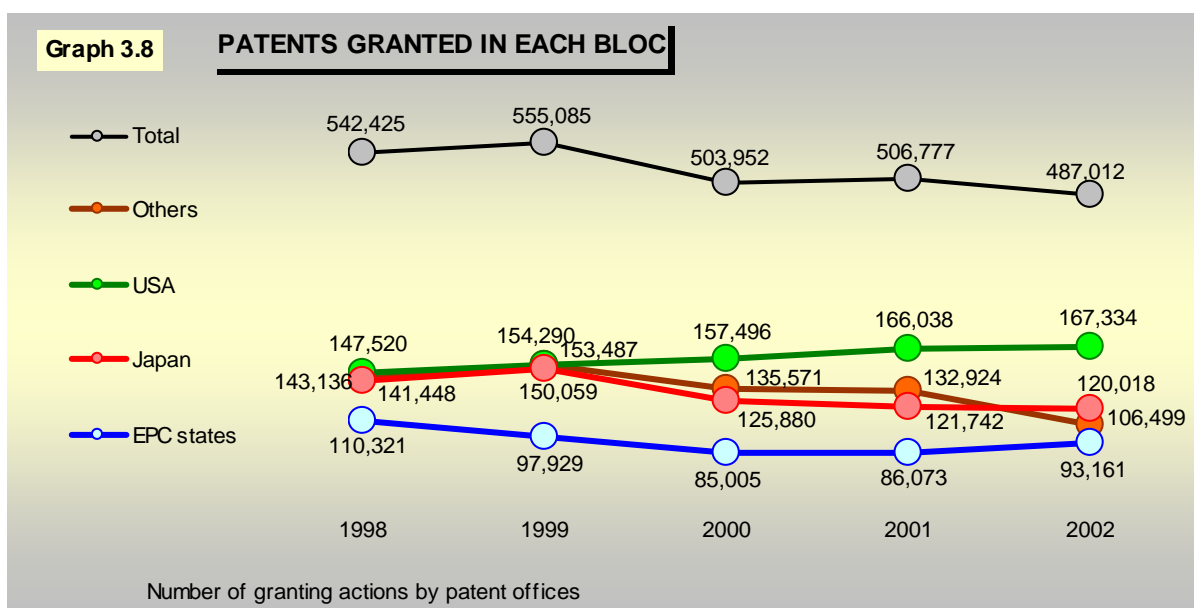
Graph 3.7 shows information on the demand for patent rights, including cumulated designations categorized by the target blocs in which patent rights are sought.

Demand in "Others" is the highest followed by the EPC contracting states. The demand increased in all blocs over the period 1998-2002. Within the Trilateral blocs, the relative change was the highest in the EPC contracting states (90.4% increase from 1998 to 2002), followed by the USPTO (45.3%) and Japan (11.3%). The development in bloc "Others" (215.9%) is due to several factors: countries setting up new intellectual property systems, new memberships to the PCT, and statistics becoming available for more countries.



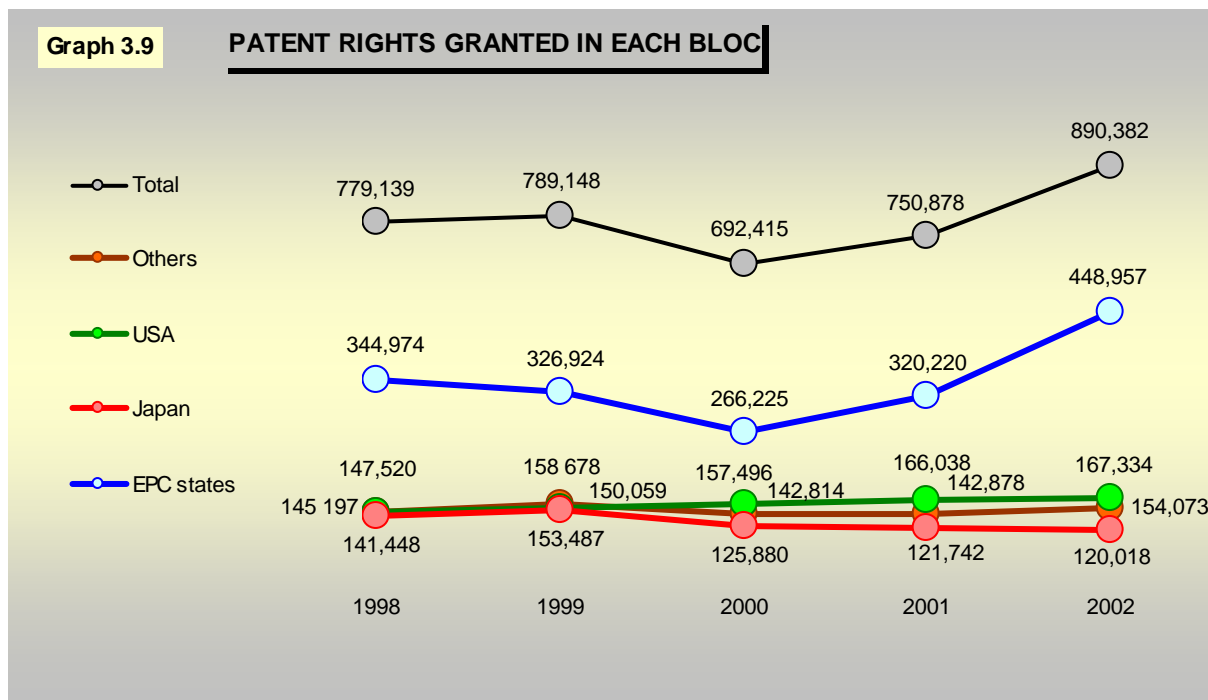
## GRANTS

Graph 3.8 shows the cumulative numbers of patents granted by the various offices in each bloc since 1998.



There have been noticeable developments and changes in trends in the number of patent rights registered worldwide. Japan's trend, which recorded an extremely high number of registrations in 1999, has gradually declined since that time. EPC member nations have shown a flat to slightly improving trend between 2000 and 2002. The numbers of registrations in the US have risen in the past but appear to have weakened in 2002, when they increased by less than one percent.

Regional granting procedures led to multiple patent rights in the various designated states within the region concerned. Graph 3.9 shows the development of grants as reflected in these rights and differs from Graph 3.8 only for those blocs where regional procedures exist in addition to national ones (EPC contracting states and "Others").



Total patent registrations have continued to increase and strengthen since 2000. In 2001, the growth rate was 8.9%, but in 2002, it accelerated to a double-digit growth rate of 19.8%. Of all the blocs, patent rights granted in the EPC states have increased the most (40.2%) in 2002. This indicates that more patents were obtained via supranational granting procedures.

## INTERBLOC ACTIVITY

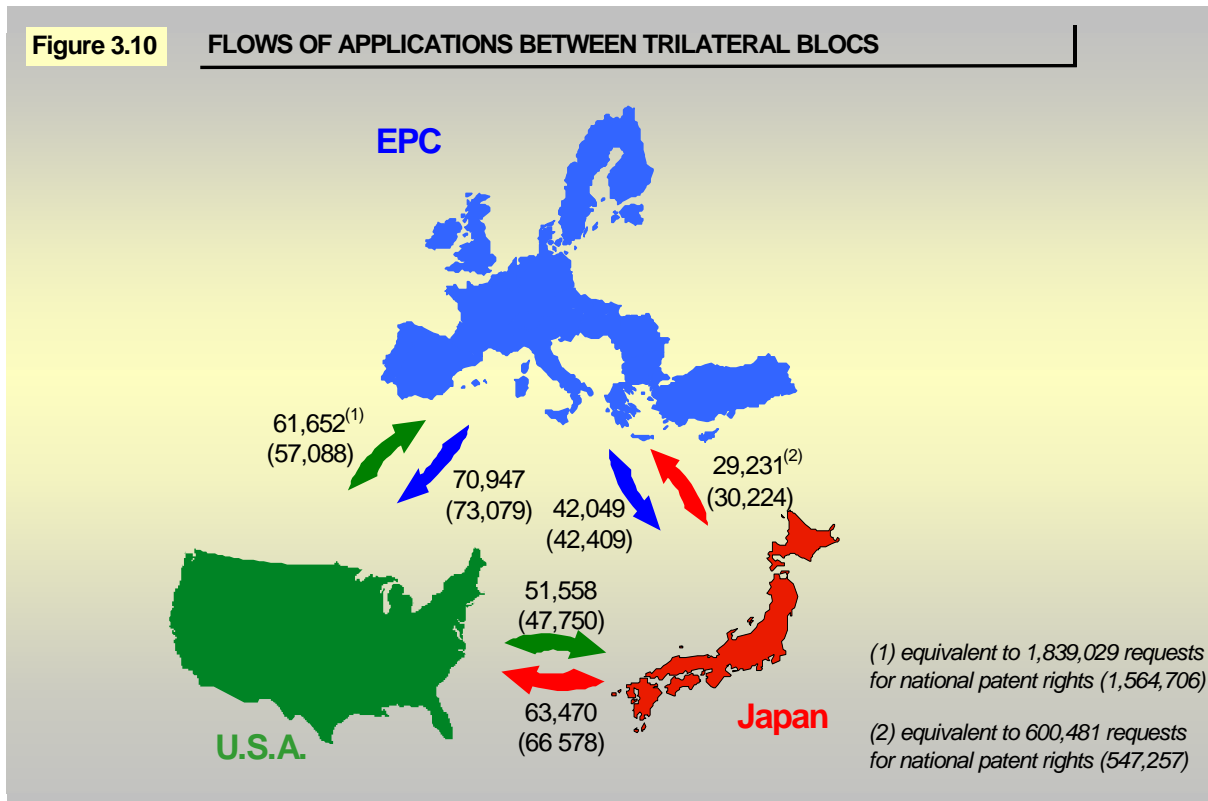
### FLOWS OF APPLICATIONS

The flows of patent applications and requests for patent rights between the three major filing blocs are important. Graph 3.10 shows details of the specific flows of applications between the trilateral blocs in 2002. The 2001 figures are given in parentheses.

Japanese applicants file more applications in the US than in the EPC area. US applicants



tend to apply more in the EPC area than in Japan. Residents of EPC contracting states seek much more protection in the US than they do in Japan. This phenomenon is the same as that of 2001.



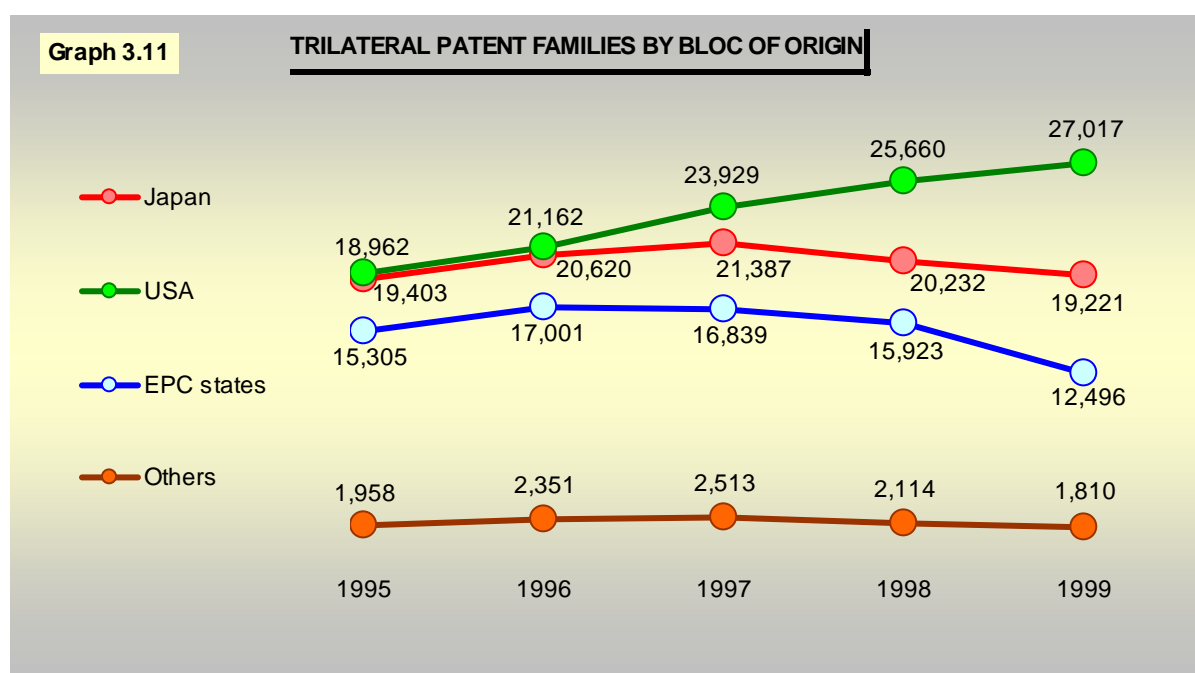
Notes (1) and (2) in the graph provide a comparison of the flows of applications to EPC contracting states, with the equivalent flows expressed in terms of rights including cumulative designations. US applicants filed 61,652 applications in the EPC contracting states, equivalent to 1,839,029 national patent applications (29.8 per application; 27.4 in 2001). Japanese applicants filed 29,231 applications in the EPC contracting states, equivalent to 600,481 national patent applications (20.5 per application; 18.1 in 2001). One of the reasons for the high number of designations per application in applications at the EPO is that an applicant for a European patent may delay his or her final choice of the contracting states to be designated until the time that he requests the substantive examination, at which point designation fees must be paid.



## PATENT FAMILIES

The information in this section was obtained from the DOCDB database of worldwide patent publications. The statistics are based on references to priorities given in published applications and differ slightly from the statistics earlier in this chapter, which are based on counts of patent applications provided by individual patent offices. Detailed tables that show the flows of patent families between blocs can be seen in the web-based annex to this report.

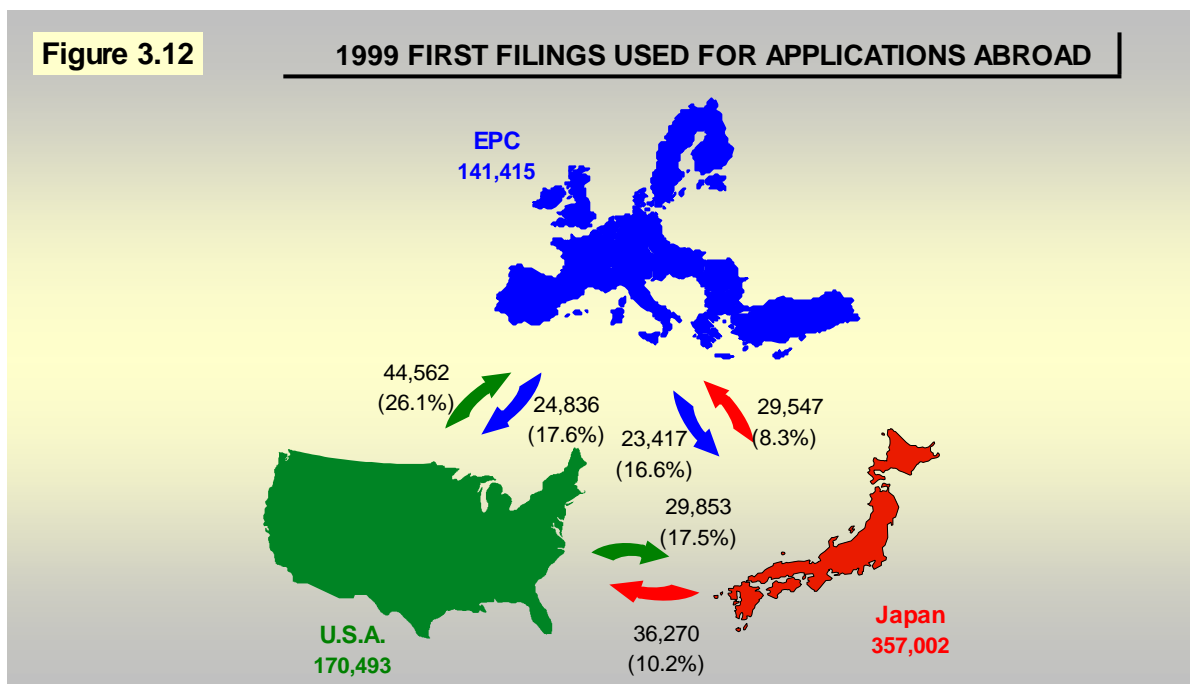
The development over time of trilateral patent families is shown in Graph 3.11. Due to the delay in publication (from the moment of filing), in particular in the patent system of the USA, where up to the year 2000 patents have been published only after grant, the figures can only be reported with any degree of accuracy after several years of delay. The figures for references to priorities and flows between trilateral blocs are accurate up to the year 1999, but the figures for trilateral patent families seem to be accurate only up to the year 1998 because for them there needs to be evidence of activity in all three blocs.



The trilateral patent families data trended upwards for the USA between 1995 and 1999, while the data for EPC contracting states rose until 1996 and then declined in 1997 through 1999. The data for the JPO show a peak in 1997 followed by a downward trend through 1999. The total number of trilateral patent families in 1998 was 63,929, of which 25% originated from EPC contracting states, 32% from Japan, 40% from the USA, and 3% from "Others". The corresponding figures for 1997 were a total of 64,668 trilateral families, of which 26% originated from EPC contracting states, 33% from Japan, 37% from the USA, and 4% from other states.

Out of all priority forming filings in the trilateral area in 1998, 9.6% formed trilateral patent families. The proportions differed considerably according to the bloc of origin of the priority forming filings. For EPC contracting states, 11.6% of priority forming filings formed trilateral families in 1998 as compared to 12.9% in 1997. For the United States, 16.7% were observed in 1998 as compared to 15.5% in the prior year. There were 5.7 in 1998 for Japan (was 6.1%), and for "Others" 1.4% in 1998 (was 1.9%).

The flows of patent families between trilateral blocs are shown in Graph 3.12. The number given for each bloc is the total number of distinct references to priority filings made in 1999. This can be taken as an indicator of the number of first filings in the bloc. The flow figures between blocs of origin and target blocs indicate the numbers of secondary filings in the target bloc that referenced priority filings from the bloc of origin in 1999.



Out of all first filings in the trilateral area in 1999, only 19.4% formed patent families including at least one other trilateral bloc. When considered by bloc of the priority applications, this proportion was much smaller for Japan than for the other blocs (25.3% for EPC contracting states, 13.1% for Japan, 27.8% for the USA). However, the absolute number of such filings for Japan (46,596) was comparable to filings from the other blocs (EPC states 35,757, USA 47,398) due to the large number of first filings in Japan. When the blocs receiving the subsequent applications were considered, a larger proportion of worldwide first filings were received by Japan than by the other blocs (14.0% by EPC contracting states, 17.1% by Japan, 12.3% by USA). From all the priority forming first filings throughout the world in 1999, 16.5% formed patent families including at least one trilateral bloc. See the statistical annex in the web version of this report for further information on these breakdowns.