

## Chapter 5

# THE IP5 OFFICES AND THE PATENT COOPERATION TREATY (PCT)

This chapter presents firstly the impact of the PCT system on global patenting activity. Then it describes the various activities of the IP5 Offices that relate to the PCT system.

Graphs are presented that display the shares that used the PCT, by origin, of patent applications, grants and patent families. Descriptions are given of additional activities of the IP5 Offices under the PCT as Receiving Offices (RO) for applicants in their respective territories, as ISA and as IPEA. PCT searches are a significant workload for the IP5 Offices in addition to those already described in Chapter 4.

Statistics in this chapter have been derived from the WIPO Statistics Database<sup>40</sup> and the IP5 Offices. The graphs cover five-year periods that include the latest year for which reliable data are available<sup>41</sup>. Data for 2020 are presented in all figures except for Fig. 5.1 (proportions of applications filed by PCT) and Fig. 5.6 (IP5 patent families by origin).

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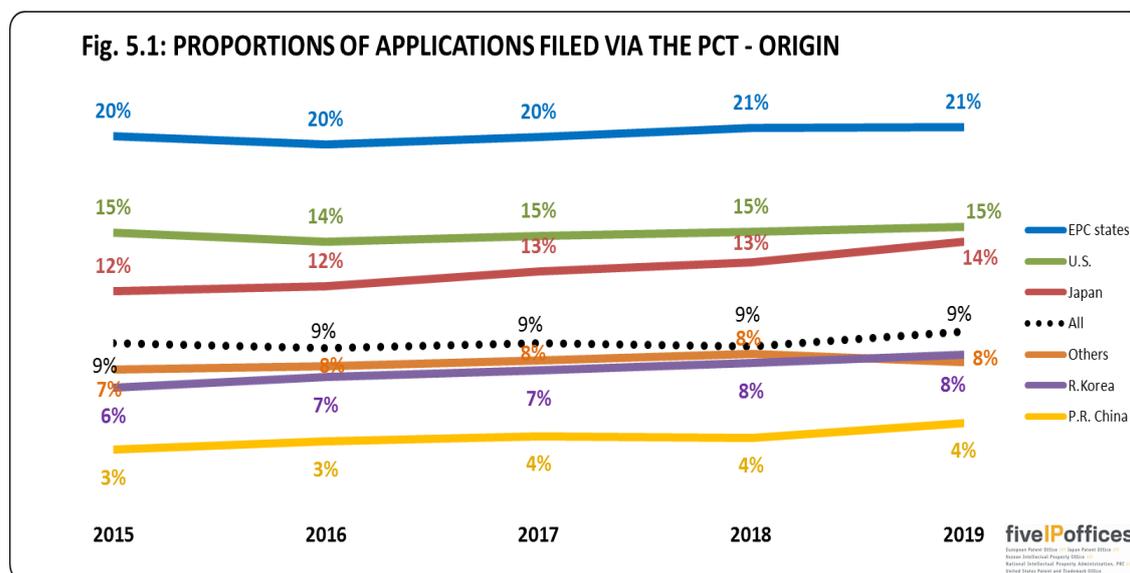
<sup>40</sup> This edition refers to general patent data as of April 2021, and to PCT international application data as of July 2021, <https://www.wipo.int/ipstats/en/index.html>

<sup>41</sup> The statistical tables file found in the web version of this report includes extended time series for most of the data included in this chapter. <https://www.fiveipoffices.org/statistics/statisticsreports/>

## PCT AS FILING ROUTE

### PATENT FILINGS

Fig. 5.1 shows, for each bloc of origin (residence of first-named applicant or inventor), the proportions of all patent filings that are PCT international applications. Applications are counted in the year of filing. These data are comparable to those in Figs. 3.1 to 3.4.



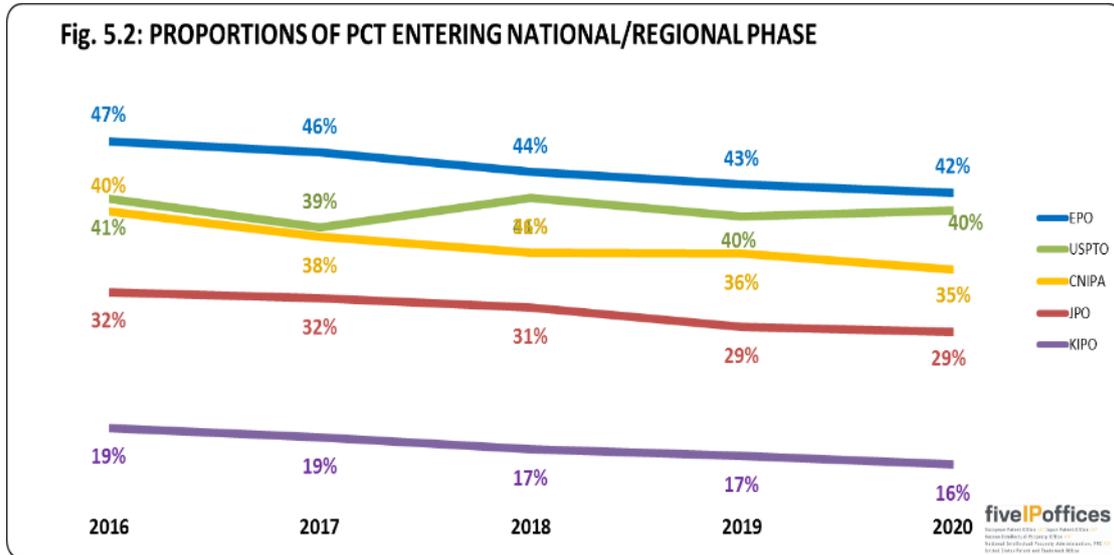
Nine percent of worldwide patent filings were made via the PCT route in 2019

Comparing 2018 and 2019, the proportion of applications filed via the PCT remained stable for applications originating from EPC states, U.S, P.R. China and R. Korea. For Japan, the proportion increased by 1 percent. The proportion for the EPC states origin applications continue to be higher than the proportions for applications from the remaining blocs.

### NATIONAL / REGIONAL PHASE ENTRY

After the international phase of the PCT procedure, applicants decide whether they wish to proceed further with their applications into the national or regional phase for each country or regional organization of interest. If the decision is made to proceed, then the applicant has to fulfil the various requirements of the selected PCT contracting states or organizations.

Fig. 5.2 shows the proportions of international PCT applications that entered the national or regional phase at each of the IP5 Offices. Applications are counted in the year corresponding to the date when the delay to enter the national or regional phase has expired<sup>42</sup>.



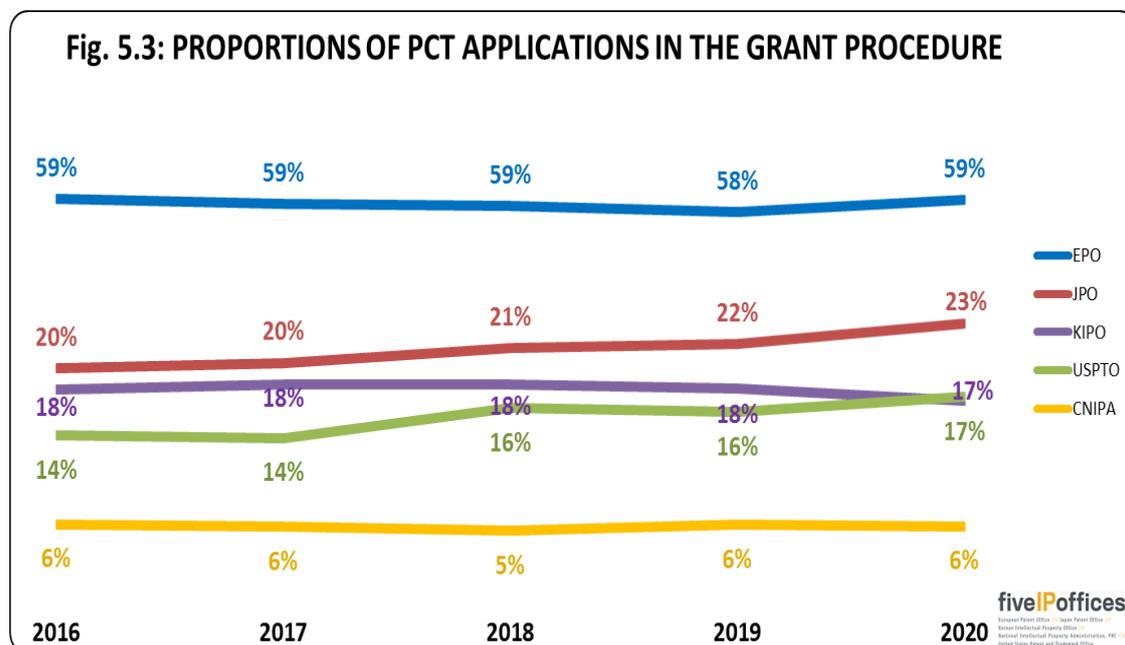
A higher proportion enters the regional phase at the EPO than enters the national phase at any of the other IP5 Offices. The proportion remains lowest at the KIPO.

Between 2016 and 2020, the proportion declined slightly at the EPO, the JPO, the KIPO and the CNIPA.

<sup>42</sup> It should be noted that counts from EPC contracting state national offices are not reported in Figs. 5.2, 5.3, and 5.4.

## SHARE OF PCT APPLICATIONS

Fig. 5.3 shows the shares of PCT among all applications in the grant procedure at each office (as presented earlier in Fig. 4.1).

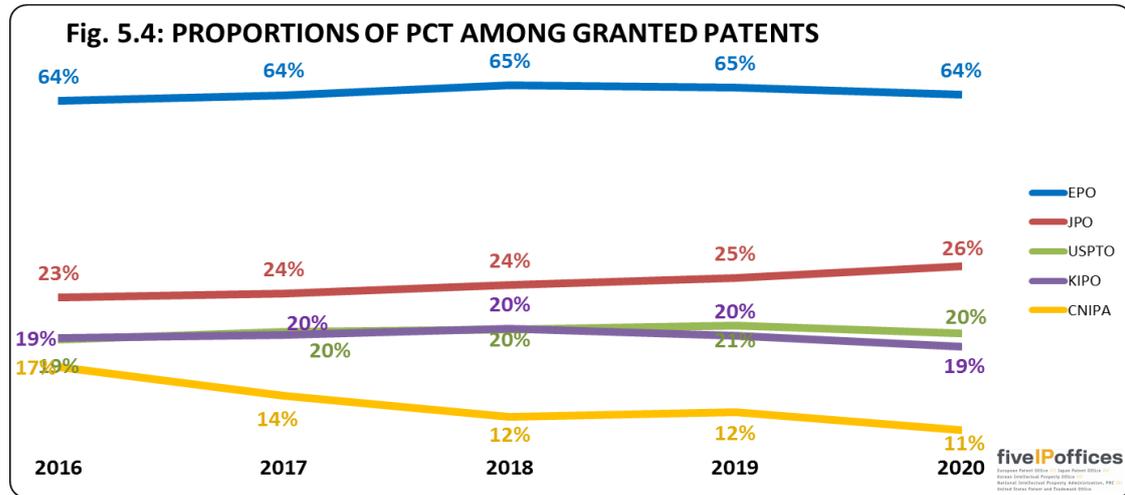


The proportions of PCT national/regional phase applications among all applications remained stable from 2019 to 2020 for the CNIPA. At the EPO, JPO, and the USPTO proportion increased by 1 percent. At the KIPO, the proportion decreased by 1 percent.

EPO continues to have much higher proportion of PCT applications, compared to the other IP5 Offices. This can be explained by the fact that, contrary to other IP5 Offices, most of the first filings filed in the EPC states are filed at national offices, resulting in a higher share of PCT at the EPO.

## PCT GRANTS

Fig. 5.4 shows the proportions of granted patents by each of the IP5 Offices that were based on PCT applications.



Granted patents generally relate to applications that were filed several years earlier.

Over the past 4-year period, the EPO, the KIPO and the USPTO maintained the proportion of PCT in patent grants, whereas in 2020 it decreased by 1 percent. The JPO maintained the increase in the proportion of PCT in patent grants.

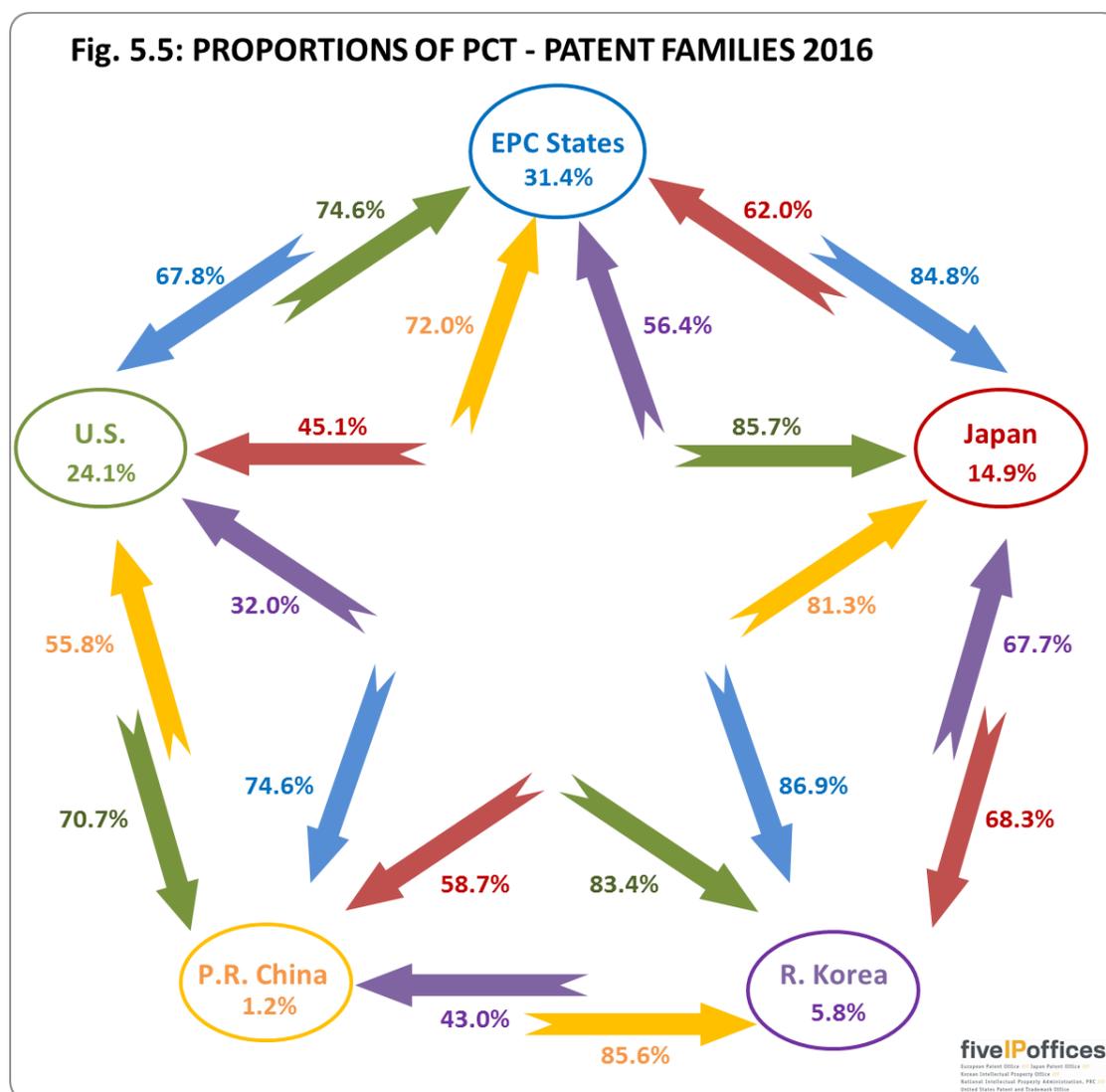
At the CNIPA, the percentage decreased by 1 percent. The percentages of PCTs in patent grants in Fig. 5.4 are always higher than the percentages of PCTs in applications in Fig. 5.3, for all IP5 Offices.

## PATENT FAMILIES AND PCT

A patent family is a group of patent filings that claim the priority of a single filing, as was described in the final section of Chapter 3.

The PCT system provides a good way to make subsequent patent applications in a large number of countries. Therefore, it can be expected that many patent families flowing between blocs use the PCT route. In this section, the usage of the PCT system implies that at least one PCT application has been made within the family of filings that quote the priority of the same first filing.

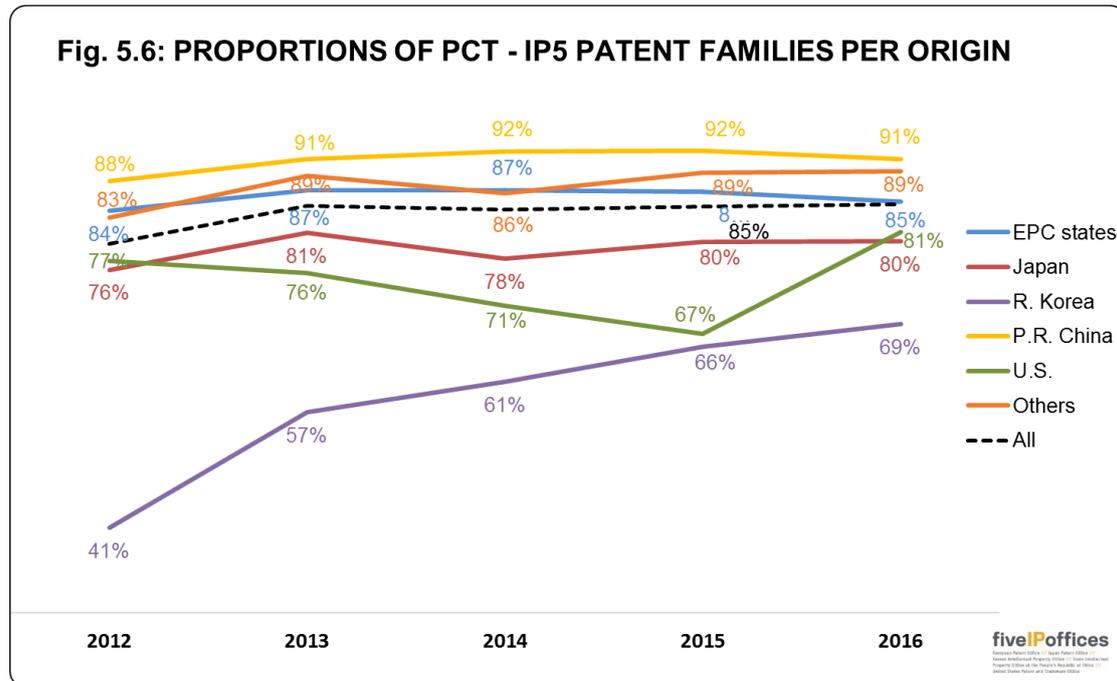
Fig. 5.5 shows the usage of the PCT among patent families for the priority year 2016. Two types of percentages are shown. The first, next to the name of each bloc, is the proportion of the overall number of first filings for the bloc that generated families using the PCT. The second, next to the arrows indicating flows between-blocs, shows the share of total patent family flows that used the PCT system. This figure is based on first filings in 2016, and can be compared with Fig. 3.14.



In general, the usage of the PCT route is far higher when making applications abroad rather than at home. Applicants from the U.S., P.R. China and the EPC states use the

PCT system for their foreign filings to a greater extent than applicants from Japan and R. Korea do.

Fig. 5.6 shows the proportions of IP5 patent families by bloc of origin (residence of first-named applicants or inventors), as given earlier in Fig. 3.15, that made some use of the PCT system. IP5 patent families correspond to filings where activities of the first and/or subsequent associated filings were made in all the IP5 Blocs.



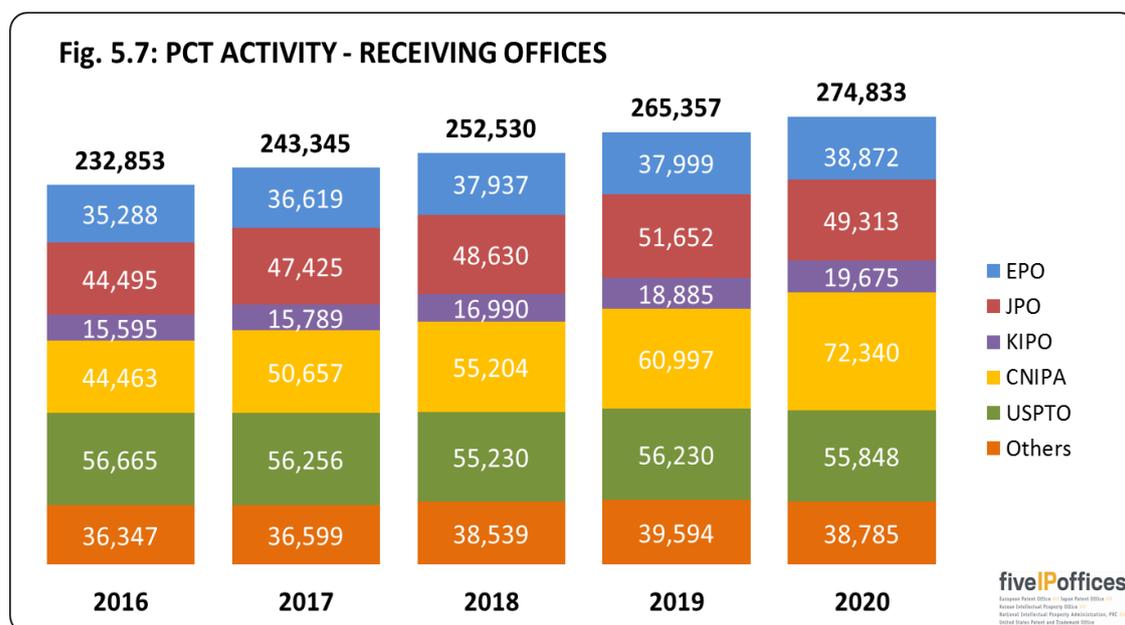
Since IP5 patent families represent highly internationalised applications, the rate of PCT usage is high compared to the overall usage of PCTs among applications in general, as was shown in Fig. 5.1.

Except for R. Korea and US, in 2016 there were only marginal variations in the usage of the PCT system. In 2016, usage in the U.S sharply increased by 14 percent whereas usage in the R. Korea increased by 3 percent, where it still remains lower than in other blocs.

## PCT AUTHORITIES

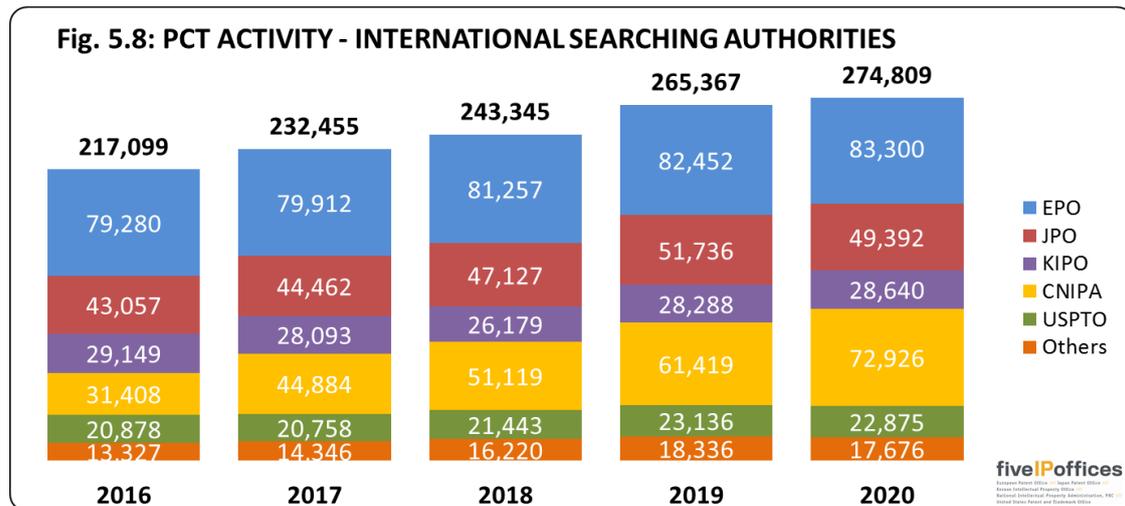
Under the PCT, each of the IP5 Offices acts as RO, mainly for applicants from its own geographical zone, and as ISA and IPEA for non-residents and residents. The following graphs show the trends from 2016 to 2020.

Fig. 5.7 shows the breakdown of PCT international filings by ROs over time.



The total number of PCT international phase filings grew at a high pace from 2016 to 2020. The compound annual growth rate from 2016 to 2020 was 3.6 percent. In 2020, EPO, KIPO and CNIPA had increase of PCT international filings compared with 2019. The CNIPA had the largest percentage increase of 18 percent. Together the IP5 Offices were RO for 85 percent of the PCT international filings in 2020 (84 percent in 2016).

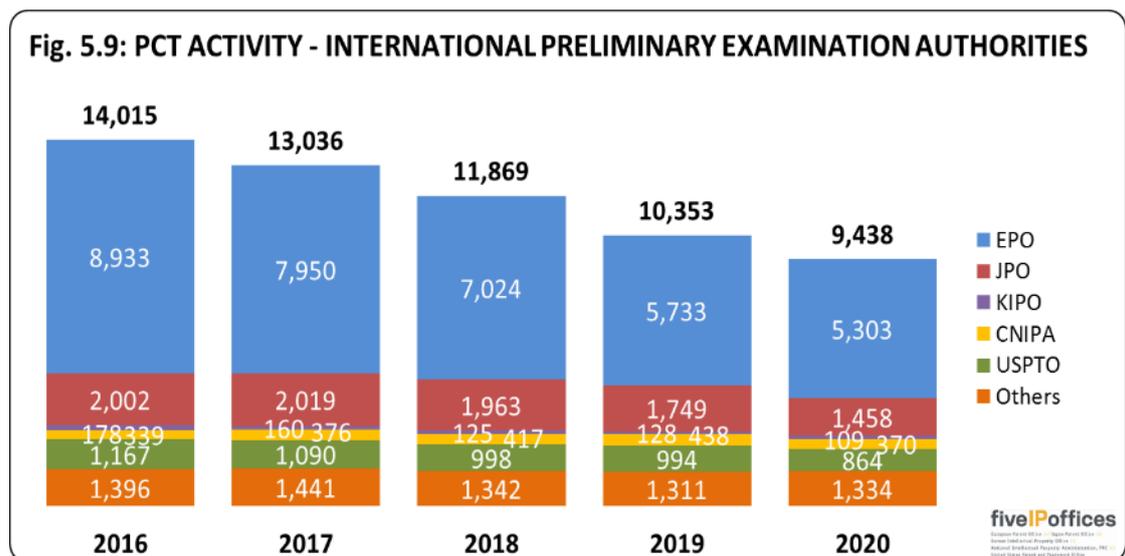
Fig. 5.8 shows the breakdown over time of the numbers of international search requests to offices as ISA, for those applications for which information is known.



There is a steady increase in total activity over the period described. In 2020, the IP5 Offices received 93 percent of all PCT international search requests, consistent with the percentage of requests received by the IP5 Offices during the previous years. The EPO continues to receive the largest number of requests, receiving 30 percent of all requests in 2020.

The CNIPA continuously demonstrated strong growth with more than 15 percent increase. While, EPO and KIPO maintained the number of the request, the JPO and USPTO decreased by 4 percent and 1 percent respectively.

Fig. 5.9 shows the breakdown over time of the numbers of international preliminary examination requests to IP5 Offices as IPEA.



From 2020 to 2019, the total number of requests for international preliminary examinations decreased 8 percent. It should be born in mind that there had been a decline in the numbers over the past 10 years, as can be seen in the statistical tables that are available at the website. Since the changes in the PCT regulations for the international preliminary examination, the number of requests for such examination

declined markedly. After a limited increase during the period 2014 to 2016, the declining trend was restored in 2017.

Together, the IP5 Offices were in charge of 87 percent of the IPEA work in 2020. In 2020, the EPO performed 56 percent of all the international preliminary examinations.