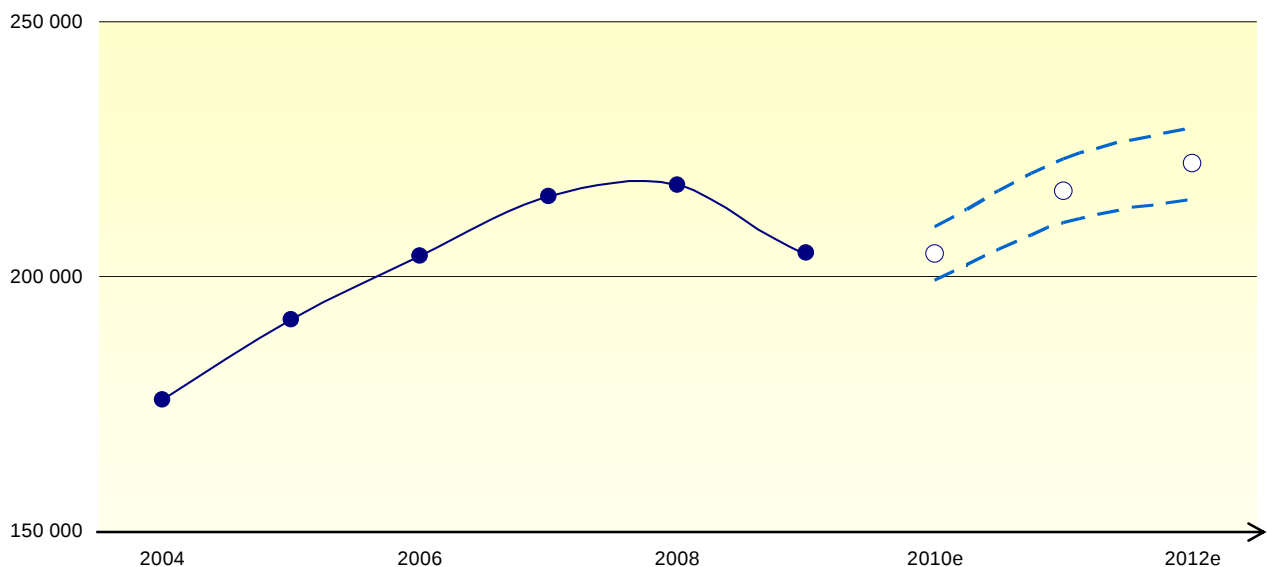


FUTURE FILINGS SURVEY 2010

INTENTIONS OF APPLICANTS REGARDING PATENT APPLICATIONS AT THE EUROPEAN PATENT OFFICE AND OTHER OFFICES

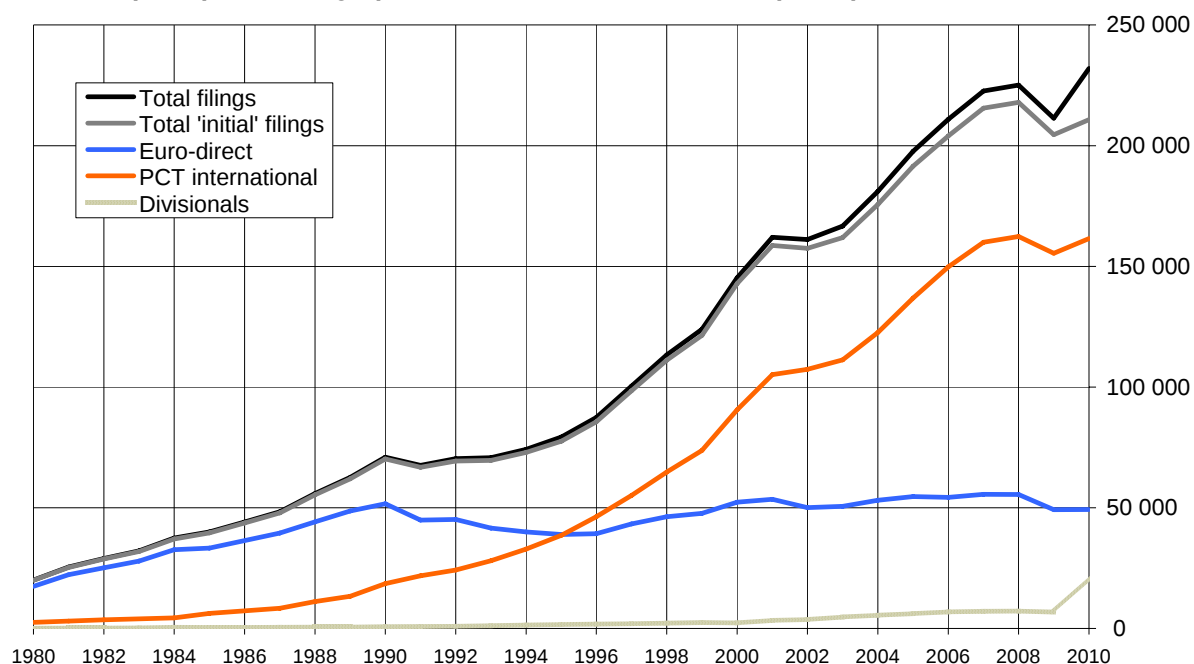


Munich, March 2011 (revised May 2011)

Commentary by the European Patent Office

Each year, the EPO carries out a survey of filing intentions of applicants for European patents. This report concerns the survey that was done in the summer of 2010 by Synovate, the market research firm. The main use of the survey is to provide information on probable filing developments for the EPO's annual forecasting exercise for budgetary planning. The number of applicants selected for the survey and the length of the fieldwork period were both increased this year and resulted in a record high number of 804 responses to input into the various analyses.

Total European patent filings (Euro-direct + PCT international phase)



After a drop in the numbers of filings in 2009 under the influence of the global recession, filings increased again in 2010 compared to 2009. This was consistent with predictions of a slight growth that were made in last year's 2009 survey report. However, the "natural" increase in 2010 was augmented by a one-off boost in terms of divisional filings, as shown at the bottom of the above diagram.

In normal years, divisional filings, that are counted as Euro-direct filings even though their "parents" can be either Euro-direct or PCT filings, are a small component of Total filings. Therefore no special provision needs to be made for them within filings forecasts. But in 2010, a modification to EPC rule 36 was made to impose a two-year time limit for making divisionals from the date of request for substantive examination. This led to a small surge in divisionals before the cut-off date for the rule change. It was decided to build forecasts in this report without including divisional filings in any of the counts.

The current survey asks about filing intentions for three calendar years (this time 2010, 2011 and 2012). The forecasts that are identified as being most appropriate are given in Table 9. The results are also analysed by groups (Biggest and Random) under various breakdowns, by four blocs of residence for the applicants (EPC, Japan, USA, Others) and

by technical areas in terms of five groups of industries known as mega clusters (groups of EPO joint clusters). Many scenarios predict a small drop in Total filings from 2009 to 2010, followed by significant increases for 2011 and on to 2012. So the observed increase in Total filings (without divisionals) in 2010 of about 4% was more than what was expected by the survey respondents. As in previous years, the forecasts from the Biggest group are for lower growth rates than the forecasts obtained from the Random group.

The recommended forecasts are shown in the short executive summary following this commentary. Considering that filings in 2010 were underestimated and that a strong step-up is predicted for 2011, to be followed by a smaller rise in 2012, it might be most reasonable to smooth the predicted increases so that they give roughly equal increments from 2009 up to the predicted level in 2012.

It is good that the confidence limits on forecasts have become narrower compared to the previous year's survey. This is mainly due to an increased number of responses, but possibly also because of a new sampling scheme based on applicant names that has allowed for a higher finite population correction factor to be used in the variance formulae. It is also possible that there has been a greater degree of unanimity of opinion on the course of future filings between respondents than in the immediately preceding years. The good quality of responses overall is underlined by the fact that the exclusion of a few dubious responses has led to a further reduction in the widths of the limits. There are also enough data available from this survey to make useful two-way breakdown analyses by blocs of residence and mega clusters (in Tables 18 and 51).

As in the 2008 survey (carried out two years ago), the opportunity was taken in January 2011 to carry out a small-scale follow-up survey regarding intentions for EPO filings on a random sub-sample of the previous respondents in the Random group. From quantitative filings estimates that were provided in the follow-up, a comparative analysis was made between the original survey and the follow-up using the respondents of the new survey only. The raw growth estimates (Q index and Composite index) appear with equivalent results from the Random group of the main survey in the following table.

Survey:	Summer 2010			January 2011	
Growth from 2009 to Year:	2010	2011	2012	2010	2011
# observations (n)	55	57	55	54	56
Q index (weighted average of log growth indices per respondent)	<u>1.017</u>	<u>1.046</u>	<u>1.043</u>	<u>1.014</u>	<u>1.081</u>
Standard Error	0.059	0.058	0.063	0.060	0.060
Composite index (arithmetic)	1.010	1.041	1.037	1.019	1.079

Many respondents indicated no change in their filings estimates for 2011, but on balance, the change was positive (Q index filings growth since 2009: 1.081 vs. 1.046 in the previous survey in the summer of 2010). However, note should be taken of the difference between summer 2010 main survey results for the whole previous sample and for this sub-sample. These particular applicants were among the more optimistic respondents for 2011, while they also did not anticipate further growth in 2012. The conclusion from the follow-up seems to be that there is a slightly more optimistic anticipated trend for 2011, but that the survey estimates for 2012 should not be altered. At any rate, the follow-up results are not significantly different from the main survey results in this report.

From the above considerations, it can be expected that the increase in Total filings (without divisionals) that has been observed in 2010 will be followed by further rises out to 2012. This is consistent with the fact that most filings at EPO are subsequent filings, which can be expected to have started moving up only after a one-year lag from the beginning of the recovery phase of the recession. However, a high level of numerical accuracy in quantitative forecasts is not to be expected from a survey, and the conclusions are based on opinions of applicants that can, of course, be altered by unexpected developments in the world economy.

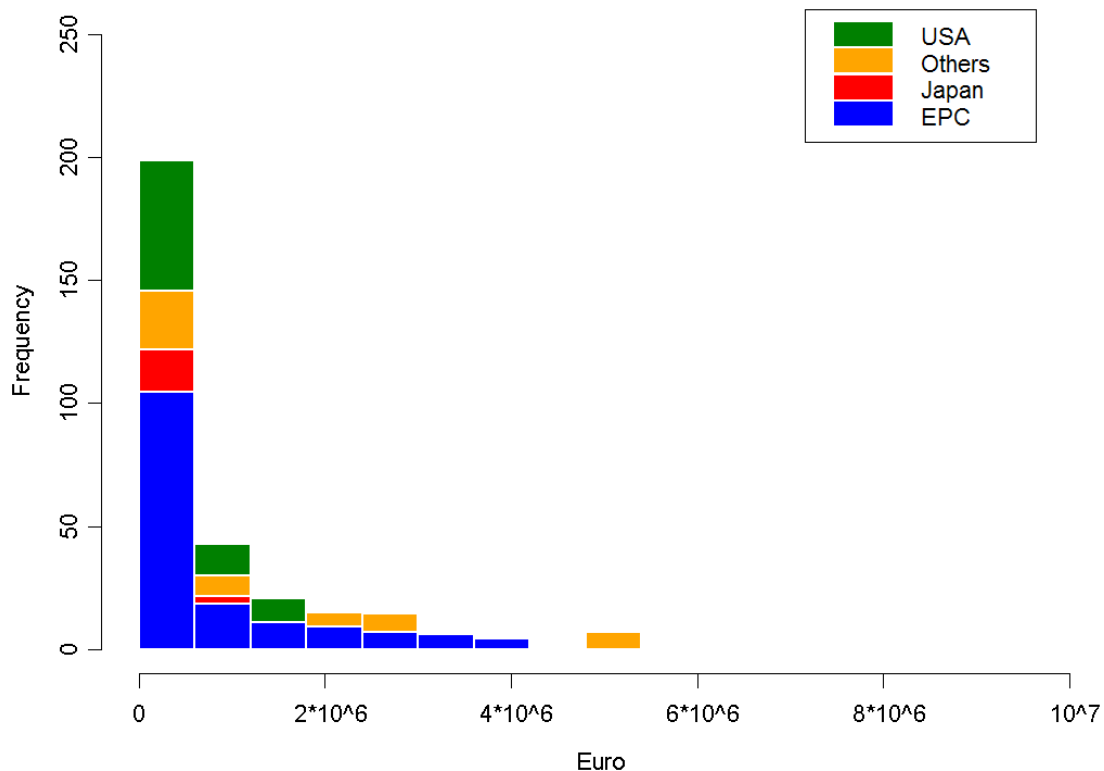
We have obtained useful filings forecast results from this survey and would like to thank all the respondents for participating. It is, however, a pity that some responses could not be used for the more detailed forecasting analyses because of missing or unclear data relating to the breakdown of first filings and subsequent filings (see Table 32). We hope that the participants in future surveys will strive to fill in all the requested fields on the questionnaire with breakdowns by first and subsequent filings wherever requested, and also to fill in all relevant rows regarding their filings both at home and abroad. This will allow for as many responses as possible to be included in the forecasts.

A general analysis of R&D expenditures and other economic factors of the applicant population in 2009 is presented in Annex VI. The distributions of all such variables that are related to company size are extremely asymmetric and this emphasises the large number of smaller companies among patent applicants at the EPO. The R&D expenditure distribution is asymmetric (see Figure 21) and the first filings distribution is even more so. Further ongoing studies are taking place into these distributions. For example, consider the distribution of the ratio of R&D expenditure in 2009 to total first filings in 2009. This is almost the same as the average investment in R&D per company that leads to a first filing, except that there is a lag between investment and patent filing so that the first filings in 2009 really should be compared to R&D expenditures some time earlier. The diagram on the next page shows the lower end of the distribution, which was obtained by weighting the survey responses from the Random group in the survey. Breakdowns of the overall frequencies per class correspond to the geographical blocs of origin of the filings¹. Interestingly, this distribution of R&D per first filing is also somewhat asymmetric.

In terms of weighted medians from the Random groups in successive surveys, it appears that, on the whole, average R&D expenditure per first patent filing remained at about € 300 000 per patent in 2009, and did not decrease much since the previous year. As in other parts of the report, this finding is subject to statistical error and it will be useful to examine trends over a number of years. Nevertheless, 2009 was the year most severely affected by the recent recession and the result contrasts with apparent decreases in average sales and numbers of employees per company.

¹ A more comprehensive provisional analysis from the previous 2009 survey appears at <http://www.epo.org/learning-events/events/conferences/2010/patstat/programme.html> , under the presentation item "Applicant demographics at the European Patent Office".

Total R&D Budget per first filing (Euro) in 2009



Regarding the responses to questions on fee issues in Annex VII, it is interesting to see a relatively high approval rating for fees on extensions of time limits and requests for further processing, while administration of making patent renewal fee payments to each national jurisdiction in Europe is generally considered to be too burdensome. The decision to drop a patent after grant also depends heavily on the levels and progression schemes for national renewal fees. However, some of these issues are apparently not of so much concern to the Biggest group of applicants that responded to the survey.

We hope that you will enjoy reading the report. Please provide us with feedback on any of the topics that it covers. This will help us to refine our approach and to improve future surveys. If you are an applicant for patents to EPO, we encourage you to participate in the future filings survey in case you are approached with a request to do so.

European Patent Office, Munich

controlling@epo.org

EXECUTIVE SUMMARY

Based on the findings of this survey, the number of total filings (excluding divisionals) at the European Patent Office for 2010 are forecasted to drop very slightly by -0.1% versus 2009 filings, resulting in an expected number of 204 354 filings.

For 2011, 216 620 total filings are expected (+5.9% versus 2009) and for 2012, the survey predicts 222 160 filings (+10.4% versus 2009).

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1 Introduction

1.1 Background and objectives

Since 1996, the European Patent Office (EPO) has carried out an annual "Future Filings Survey" (formerly known as "Applicant Panel Survey"). Applicants are surveyed with the main objective of predicting the number of patent filings for the base year and the two following years. The EPO uses the predictions as one of the ways of allocating resources in order to ensure a high service level when processing future patent filings.

In 2010, the fifteenth in the series of surveys took place. The interviews and data collection were undertaken by Synovate, providing the EPO with the benefit of joint experience previously gained in similar surveys from 2001 to 2009. For the seventh year in succession, Synovate was also in charge of the data analysis and interpretation in 2010.

The primary objective of the survey was to calculate quantitative forecasts of patent filings at the EPO and other patent offices by various filing routes and applicants' residence blocs (EPC², Japan, USA, Others). A secondary objective was to explore technological areas of patenting in order to make more detailed forecasts and to explore the relationship between R&D expenditures and patent applications. This was done on the basis of 14 joint clusters, itemised according to the technology-based classes of the patent applications and corresponding to the structure in which the EPO has organised its search, examination and opposition departments. Since 14 classes spread the survey results rather thinly, amalgamation of joint clusters was made into five rather more meaningful "mega clusters". The opportunity was also taken to ask for information on other characteristics of patenting firms and their views on aspects of the patenting procedure in Europe.

1.2 Content and structure of this report

The survey involves establishing forecasts from basic filing types and residence blocs of the applicants. The basic filings types at the EPO are first and subsequent filings, each of which can be either Euro-direct or PCT international phase filings (PCT-IP). The PCT-IP applications can later on become PCT applications entering the regional phase (Euro-PCT-RP). At other offices, there are national filings and PCT applications entering the national phase (PCT-NP), the latter of which also originate as PCT-IP applications.

Section 1.3 outlines the characteristics of this year's survey and sample groups. **Section 2** provides high-level summaries of the predicted counts of total filings and growth rates for 2010, 2011 and 2012 based on the recommended forecasting method. **Section 3** summarises forecasts (for Euro-direct and PCT-IP filings) based on two sample groups using the different forecasting methods, and puts the report into perspective by comparing results with those from previous surveys dating back to 2003. **Section 4** begins by describing the statistical methodologies employed for forecasting growth, and then provides forecast results (for Euro-direct and PCT-IP filings) for both sample groups with

² European Patent Convention (EPC) contracting states, considered here as at January 2010 with 36 members after both Fyr of Macedonia and San Marino joined in 2009.

the breakdown scenarios employed. **Section 5** focuses on forecasts for PCT applications entering the regional filing phase (Euro-PCT-RP). The main part of the report wraps up with conclusions and an outlook in **Section 6**.

Annex I contains the complete survey methodology report as well as this year's questionnaire, and details the data validation procedures that were employed. **Annex II** reports on the comments to the survey received from respondents. **Annex III** contains details of the analytical methodology employed. **Annex IV** provides forecasts for applications at other national patent offices (national filings including worldwide first filings and national phase PCT filings). **Annex V** provides summary statistics and a profile of respondents based on economic characteristics of the responding individuals or institutions. **Annex VI** analyses economic characteristics of EPO applicants in 2009, including R&D budgets, inventions, first filings, sales, numbers of employees (all and inventive) and some ratios that are based on these figures. **Annex VII** reports on the applicants' assessment of various fee issues. **Annex VIII** gives details on the estimation of birth/death effects which can be used to deal with structural shortfalls of the actual empirical survey. **Annex IX** reports forecasting results with an alternative weighting scheme using respondent-provided filing totals to calculate sampling weights. Finally, **Annex X** reports on population sizes and sample sizes of the 2010 survey.

1.3 The 2010 survey

The survey design was to a large extent similar to that of the previous years, using overlapping Biggest and Random groups of selected applicants. There were, however, two technical differences worthy of note this year – a new sampling method was used for the Random group that was based on semi-harmonised applicant names rather than applicant codes, and the main results for EPO filings were calculated on counts excluding divisional applications.

The total number of applicants involved was 2 586, with most of the Biggest group also appearing in the Random group³. The survey covered applicants for about 31% of the applications at the EPO (Euro-direct and PCT-IP filing numbers of Random sample relating to population, see **Annex X**).

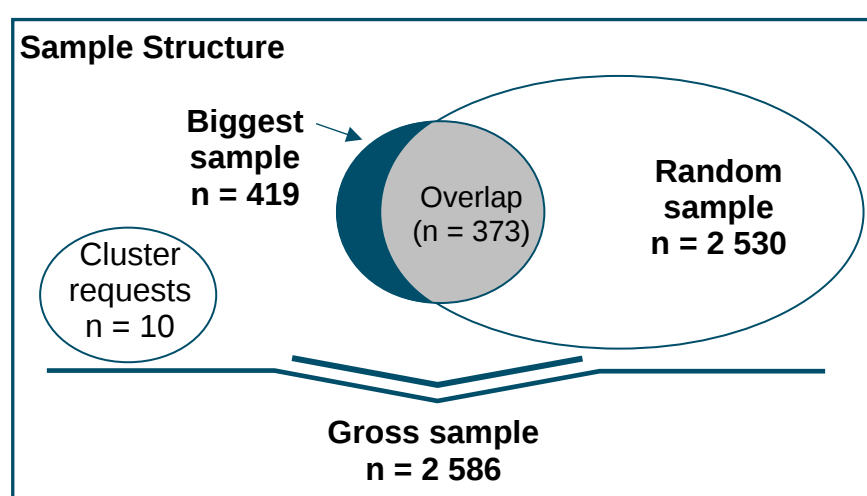
The survey was carried out via telephone and mail interviews with pre-established contact persons. Questionnaires were sent out from the beginning of May 2010, with interviews being completed by mid-September. This was a longer fieldwork period than in previous surveys. In total, 804 interviews were completed in 2010.

In the first stage, valid addresses were found for 2 300 applicants. Contacts were established for 1 855 applicants. The overall response rate in terms of the numbers of valid addresses was 35.0% (804 out of 2 300), slightly higher than in the previous 2009 survey (34.2% or 702 out of 2 055) for the comparable groups.

³ This total includes 10 additional addresses that were specifically requested by EPO joint cluster managers.

The EPO provided two **gross samples** of applicants drawn from the EPO database of applications (EPASYS) in early 2010.⁴

- "Biggest": This sample comprises the 419 largest applicants and was designed to allow for separate analysis of the intentions of the biggest applicants.
- "Random": This sample includes 2 530 applicants and was designed to represent all applicants of the parent population. It was obtained from a simple random sample of applications, with the effect of over-weighting large applicants due to their larger numbers of applications.



These samples were drawn separately, although the Random and Biggest groups contain an overlap of 373 large applicants that are part of both groups. The EPO also added another 10 deliberately selected addresses that are of special interest. Without double counting caused by the overlap, the gross sample included a total of 2 586 applicant addresses. Both samples should adequately represent the three regions, Europe, the US, and Japan. Other countries comprise a residual group for the rest of the world and the sampling scheme for the Random group gives them adequate representation in terms of their numbers of patent applications to the EPO.

The questionnaire used for data collection was broadly similar to the one used in 2009 (see **Annex I**). It contained a full matrix of questions on patent filings and expectations for patent filings for the coming three years, in this case for 2010, 2011 and 2012, itemised by first and subsequent filings, not only at the EPO but also at other main worldwide patent offices.⁵ Apart from the main questions on predicting numbers of patent filings, questions

⁴ The sampling procedures were done on database counts for Euro-direct and Euro-PCT regional phase filings only (PCT-IP filings were ignored for the sampling due to a lack of timeliness).

⁵ An option was provided to give information in the form of growth rates rather than actual numbers. Growth rates on a year-by-year basis were a permitted alternative because previous experience had shown that some interviewees had difficulties calculating growth rates from a single base year. However, for this report we adopt the convention of indicating growth rates with respect to the base year (in this case 2009).

were asked to elicit information on economic characteristics of applicants, including R&D expenditures and first filings by 14 joint clusters (roughly equivalent to industry segments) that are relevant to EPO operations. Descriptive information was also collected on company type and size in terms of persons employed and worldwide sales. New questions were included on: number of staff that were involved in making inventions; evaluation of differential fees system; perception towards national renewal fees; influential factors on decision to drop a patent in a European country after grant; levels of experiences at patent offices; and satisfaction with services provided by the EPO.

For details on parent population, target persons, questionnaire topics, data collection procedure, and response statistics, refer also to **Annex I**.

2 Forecast of future patent filings at EPO

Based on the recommended forecast method explained in **Section 3**, the estimated growth rates (with respect to 2009) for Total filings excluding divisional filings were calculated as - 0.1% for 2010, 5.9% for 2011, and 8.6% for 2012. The **overall survey forecast** for total filings excluding divisionals **in 2010 is 204 354**, with approximate 95% confidence limits of **199 117 to 209 591**, resulting in a deviation of 2.6%⁶. This forecast agrees reasonably well with the current assumed figure of 212 896 for actual 2010 filings excluding divisionals, although this number is above the upper 95% confidence limit of the forecast. The estimated percentage of PCT-IP filings amongst total filings for 2010 is 74.8%, compared to an actual value of 76.5%. **For 2011**, the recommended forecast method predicts **216 620** total filings with approximate 95% confidence limits of **210 324 and 222 915**. **For 2012**, the recommended method estimates **222 160** total filings with approximate 95% confidence limits of **215 126 and 229 195**.

This year, for the first time, all actual and estimated filing totals refer to filings excluding divisional filings. Divisional filings normally make up only a small proportion of Total filings, although they have been on a steady rise over the past decade. A recent change to rule 36 of the European Patent Convention imposed a new time limit for making divisional filings, and has led to what is most probably a one-time incremental jump of divisionals in 2010 (See further discussion in the *Commentary by the European Patent Office* at the beginning of the report). The survey question on filings at EPO specifically excludes divisional filings in the counts, so it was decided to exclude divisional filings from all the actual and predicted filing counts. As a consequence, whenever this report refers to filings or total filings, the counts excluding divisional filings are meant. It should be noted that, while this procedure ensures that all filing numbers contained in this report are consistent (in the sense that they exclude divisional filings), it also means that filing numbers cannot easily be compared to filing numbers stated in previous years' reports of this survey.

Although it should be kept in mind that the survey design alone (without correction factors) cannot properly account for applicants completely dropping out or newly appearing, it was decided again this year not to use correction factors for reasons discussed in the 2009 survey report. See **Annex VIII** for further explanation.

In summary, this year's survey predicts more or less stable filing totals for 2010 vs. 2009. In contrast to the previous year's survey, two and three-year growth rates turn clearly positive, with most forecasting approaches based on the Random group anticipating double-digit percentage growth in 2012 when compared to 2009, indicating that the participants of the survey generally felt that the negative impact of the economic crisis on patent filings has passed.

⁶ The term deviation refers to the distance from the forecasted filings number to the lower 95% confidence limit of the forecast as a percentage of the forecasted filings number.

As in previous years, it was also possible to analyse the questions on PCT filings entering the regional phase at the EPO (Euro-PCT-RP). For the Biggest group, growth rates (compared with 2009) can be estimated at -4.9% in 2010, -1.1% in 2011, and -0.5% in 2012. For the Random group, growth rates can be estimated at -2.6% in 2010, 3.7% in 2011, and 4.4% in 2012. For both Total filings and Euro-PCT-RP filings, the estimates based on the Random group that represent the whole population are somewhat more optimistic than those based on the Biggest group.

3 Summary of forecasts and comparison with previous future filings surveys

3.1 Summary of this year's forecasts

This report presents and discusses a variety of different forecasting approaches. Overviews of the main results presented in **Section 4** are summarised in **Table 1** with respect to growth rates, and in **Table 2** for the resulting predicted filing numbers.

Comparison of forecasts: Growth from 2009
Euro-direct and PCT-IP

Group	Breakdown	Year					
		2010		2011		2012	
		Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Biggest	None	-1.7%		2.8%		4.7%	
Biggest	Residence bloc	-3.3%		2.0%		3.9%	
Random	None	-0.8%	2.8%	7.9%	2.9%	10.4%	3.4%
Random	None (winsorized)	-1.0%	2.5%	7.5%	2.7%	10.0%	3.2%
Random	None (Euro-direct and PCT-IP filings combined)	-0.1%	2.6%	5.9%	2.9%	8.6%	3.2%
Random	None (including companies with comments)	-1.1%	2.9%	8.8%	3.2%	11.2%	3.5%
Random	Residence bloc	-1.1%	4.5%	10.3%	5.6%	13.5%	7.0%
Random	Residence bloc (winsorized)	-1.1%	4.4%	10.3%	5.4%	13.5%	6.8%
Random	Residence bloc (ED and PCT-IP filings combined)	-0.1%	3.4%	8.1%	6.6%	13.1%	9.8%
Random	Residence bloc (including companies with comments)	-1.3%	4.5%	12.2%	5.6%	14.6%	7.0%
Biggest	EPO mega cluster	-1.3%		2.6%		4.5%	
Random	EPO mega cluster	1.0%	2.9%	8.7%	3.4%	12.5%	3.7%
Random	EPO mega cluster and residence bloc	-2.4%	6.7%	12.1%	14.8%	16.8%	17.2%

*) **Deviation** corresponds to the distance from the forecasted filings to the lower 95% confidence limit (as % of the forecasted filings)

Table 1: Predicted growth rates for Euro-direct and PCT-IP filings by forecasting method

Comparison of forecasts: Predicted total filings
Euro-direct and PCT-IP
LCL/UCL indicates lower/upper 95% confidence limit

Group	Breakdown	Year								
		2010			2011			2012		
		Predicted filings	LCL	UCL	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Biggest	None	201 136			210 322			214 193		
Biggest	Residence bloc	197 865			208 714			212 664		
Random	None	203 012	197 407	208 618	220 814	214 327	227 300	225 781	218 120	233 441
Random	None (winsorized)	202 601	197 488	207 714	219 961	214 115	225 807	225 037	217 940	232 134
Random	None (Euro-direct and PCT-IP filings combined)	204 354	199 117	209 591	216 620	210 324	222 915	222 160	215 126	229 195
Random	None (including companies with comments)	202 316	196 418	208 215	222 532	215 486	229 577	227 496	219 463	235 529
Random	Residence bloc	202 343	193 189	211 498	225 746	213 139	238 353	232 205	215 894	248 516
Random	Residence bloc (winsorized)	202 284	193 392	211 177	225 771	213 637	237 904	232 197	216 346	248 047
Random	Residence bloc (ED and PCT-IP filings combined)	204 433	197 545	211 321	221 131	206 495	235 767	231 368	208 762	253 973
Random	Residence bloc (including companies with comments)	201 902	192 787	211 018	229 481	216 590	242 371	234 432	218 076	250 788
Biggest	EPO mega cluster	201 952			209 834			213 877		
Random	EPO mega cluster	206 649	200 557	212 081	222 349	214 849	229 036	230 275	221 675	237 884
Random	EPO mega cluster and residence bloc	199 616	186 212	213 020	229 332	195 414	263 250	238 987	197 913	280 061
Actual Filings		212 896								

Table 2: Predicted total numbers of Euro-direct and PCT-IP filings by forecasting method

As in previous years, forecasts based on the Biggest group turn out somewhat more pessimistic than those based on the Random group. Both forecasts based on the Biggest group suggest a continuing decline in filing numbers from 2009 to 2010. The decline in filing numbers suggested by Biggest group estimates is more pronounced than the slight declines suggested by most Random group estimates. Looking at Biggest group estimates for 2011 and 2012, a return to moderate positive growth is anticipated. Still, the apparent discrepancy between estimates based on the two sample groups is remarkable: year 2 and year 3 growth estimates based on the Random group are often more than twice as high as those based on the Biggest group.

A priori, the Biggest group is not the preferred sample on which to base overall estimates of growth rates and filings, since its composition is skewed to large companies. Although it gives valuable information about the intentions of the small number of major applicants to EPO, it is not representative of the overall EPO applicant population, whereas the Random group represents a probabilistic sample of the totality of the EPO applicant population. Therefore, it is usually recommended to use the results from the Random group.

When considering which forecasting method to use, our recommendation this year is based, as in previous years, on predictive accuracy for one-year growth and low variability of the estimate. We recommend using the forecast without any breakdowns and combining Euro-Direct and PCT-IP filings⁷. Its one-year estimate aligns reasonably well (and second best of all estimates) with the current expectation of actual filings in 2010, even though the currently anticipated actual filings number of 212 896 is outside the upper confidence limit of the recommended estimate. Moreover, it is among the estimates with the lowest deviations for all forecast years, with the exception of the winsorised estimate which is designed specifically to give an artificially smaller deviation. The filing estimates using the recommended prediction method as shown in **Figure 1** are **204 354 for 2010, 216 620 for 2011, and 222 160 for 2012**. For the two and three-year time horizon, our recommendation also aligns best with the long-term conservatism of estimates based on the Biggest group in that it is fairly conservative with respect to 2011 and 2012 compared to other scenarios.

An honourable mention this year goes to the Random group estimate using EPO mega cluster breakdowns. Apart from exhibiting competitively low estimate variability, it is the only estimate which correctly anticipates growth in filing numbers (albeit small) from 2009 to 2010. However, due to the design characteristics of the Future Filings Survey, it was decided not to select this forecast method as the “recommended method”. We will however continue to monitor the performance of this method with respect to the others in the following years.

⁷ "None (Euro-direct and PCT-IP filings combined)" in Table 1 and Table 2. Forecasts for PCT proportions are taken from Table 7.

Number of filings

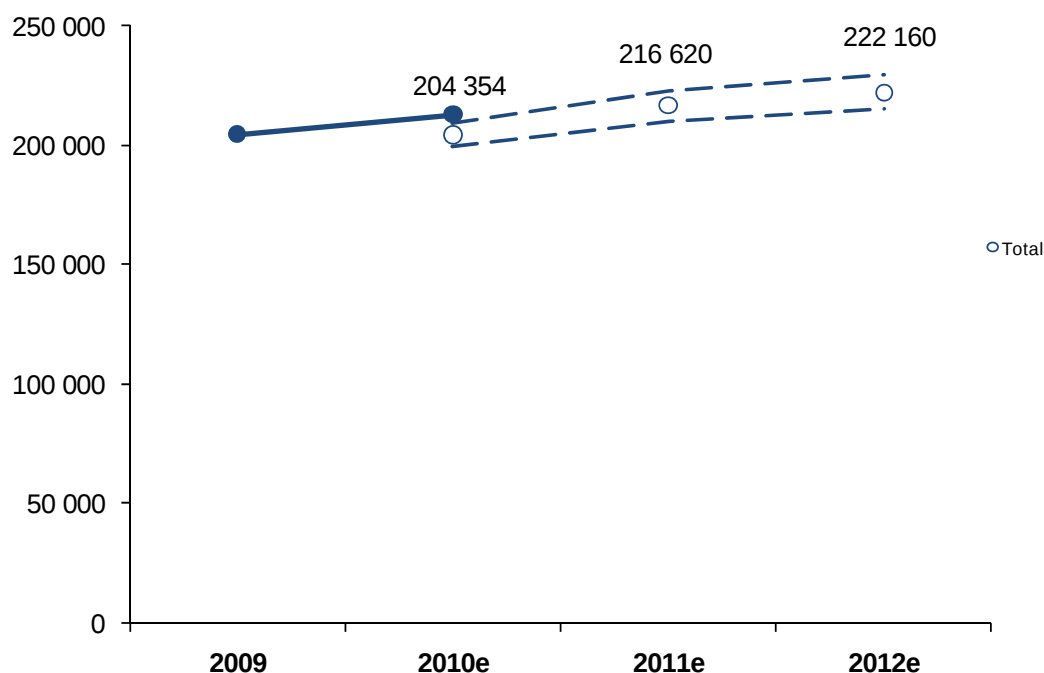


Figure 1: Forecasts for EPO filings based on the recommended forecast – Random group without breakdown by residence blocs, Euro-direct and PCT-IP filings combined (dotted lines illustrate 95% confidence limits)

3.2 Comparison with previous future filings surveys

Figure 2 and **Table 3** as well as **Figure 3** and **Table 4** compare the forecasting results of previous panel surveys since 2003 for the Biggest and the Random groups respectively.

The **precision of predictions** from previous years' surveys can be evaluated by comparison with actual filing numbers, which are given in the last row of the respective tables. Based on the actual number of filings, the forecast numbers are given as percentage values of the actual filings in brackets. On the whole, the forecast deviation in terms of the percentage of actual filings remains between 90% and 105% with the notable exception of estimates based on the 2007 and 2008 surveys for the crisis-affected years of 2009 and 2010. Neither the 2007 nor the 2008 survey was able to predict the downturn in filings for 2009. But encouragingly, the 2009 survey not only properly captured base year filings, it also fared quite well in terms of predicting 2010 filings (and in fact better than estimates of this year's survey with respect to 2010). This holds true especially for Random group estimates, whereas estimates based on the Biggest group appear to be somewhat too pessimistic in terms of 2010.⁸ As everywhere else in this report, all filing totals shown in

⁸ See Annex VIII and earlier survey reports for discussion on the advisability and results of using a correction factor on estimates to deal with births and deaths of applicants in the population.

this section and used to compare this year's survey with previous years exclude divisional filings, in order to ensure comparability with this year's forecasting approach.

Concerning which sample to base estimates on, in retrospect, the estimates based on the Random group were slightly more accurate than the estimates based on the Biggest group, with the exception of estimates of the 2007 survey for 2008 and the 2008 survey for 2009 and 2010, where the Biggest group can now be seen to have fared better. However, this better performance of Biggest group estimates for the past two years of economic crisis is likely to have been not so much a matter of better foresight, but because estimates based on the Biggest group are traditionally more conservative than those based on the Random group.

Given the uncertainty about the sustainability of the current economic recovery, we will continue monitoring the performance of estimates based on both samples in subsequent surveys.

Comparison of forecasts since 2003 based on Biggest Sample without subsidiary breakdown

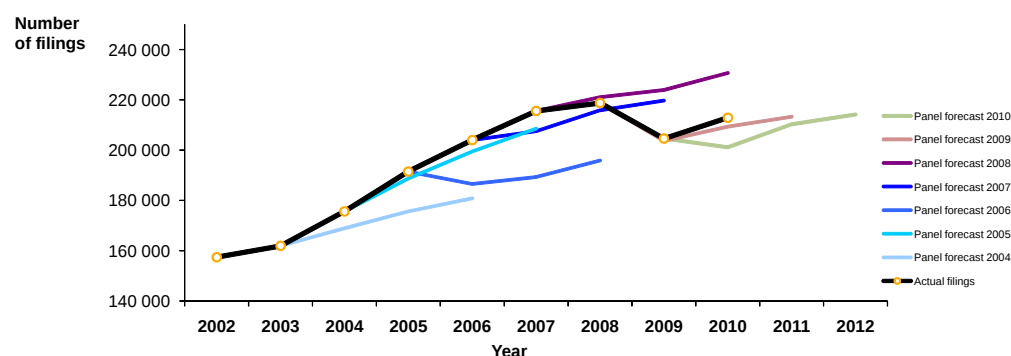


Figure 2: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown)

Comparison of forecasts since 2003 based on Biggest Sample without subsidiary breakdown

Number of filings* forecasted based on ...	Forecasting Year										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
... 2003 panel survey (in % of actual filings)	157 434 (=actual)	..**	..**	..**							
... 2004 panel survey (in % of actual filings)		161 932 (=actual)	168 905 (96%)	175 647 (92%)	180 869 (89%)						
... 2005 panel survey (in % of actual filings)			175 643 (=actual)	188 713 (99%)	199 455 (98%)	208 532 (97%)					
... 2006 panel survey (in % of actual filings)				191 499 (=actual)	186 500 (91%)	189 297 (88%)	195 854 (90%)				
... 2007 panel survey (in % of actual filings)					204 027 (=actual)	207 557 (96%)	215 853 (99%)	219 717 (107%)			
... 2008 panel survey (in % of actual filings)						215 586 (=actual)	221 086 (101%)	223 897 (109%)	230 688 (108%)		
... 2009 panel survey (in % of actual filings)							218 757 (=actual)	203 663 (100%)	209 379 (98%)	213 281 (N/A)	
... 2010 panel survey (in % of actual filings)								204 600 (=actual)	201 136 (94%)	210 322 (N/A)	214 193 (N/A)
Actual filings	157 434	161 932	175 643	191 499	204 027	215 586	218 757	204 600	212 896	N/A	N/A

*) First and subsequent Euro-direct and Euro-PCT-IP filings excluding divisional filings

**) The 2003 panel survey did not analyze the Biggest group without subsidiary breakdown

Table 3: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown)

Comparison of forecasts since 2003 based on the recommended forecast

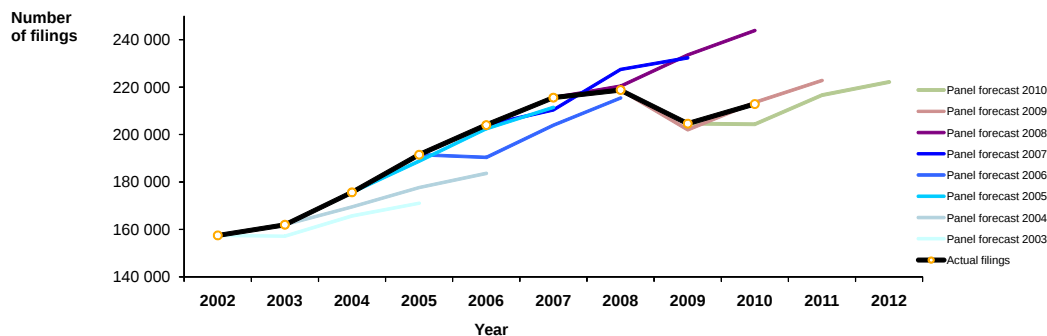


Figure 3: Comparison of recommended forecasts since 2003 (Random group)

Survey year	Recommended forecast method	Forecast ¹	Forecasting Year									
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2003	Random group with residence bloc breakdown (EPC and Others combined)	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit	157 434 (=actual)	157 121 (97%) 155 007 166 525	165 668 (94%) 160 982 178 081	171 061 (89%) 166 171 184 680						
2004	Random group without subsidiary breakdown	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit		161 932 (=actual)	169 516 (97%) 164 250 184 661	177 656 (93%) 170 228 195 439	183 606 (90%) 175 084 202 830					
2005	Random group without subsidiary breakdown	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit			175 643 (=actual)	188 798 (99%) 186 324 203 023	202 471 (99%) 197 983 219 560	211 427 (96%) 205 505 230 509				
2006	Random group with residence bloc breakdown	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit				191 498 (=actual)	190 338 (93%) 178 298 214 506	203 939 (95%) 187 051 233 821	215 408 (98%) 196 847 247 694			
2007	Random&Smallest group without subsidiary breakdown	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit					204 027 (=actual)	210 409 (96%) 209 961 224 927	227 451 (104%) 227 359 242 753	232 362 (114%) 231 081 249 180		
2008	Random group without subsidiary breakdown	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit						215 586 (=actual)	220 374 (101%) 219 446 234 509	233 575 (114%) 231 547 249 601	243 890 (115%) 240 746 261 649	
2009	Random group without subsidiary breakdown Euro-direct and Euro-PCT-IP filings combined	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit							218 757 (=actual)	202 063 (99%) 201 830 216 251	213 529 (100%) 211 940 229 862	222 822 (N/A) 220 420 240 610
2010	Random group without subsidiary breakdown Euro-direct and Euro-PCT-IP filings combined	Number of filings (in % of actual filings) Lower confidence limit Upper confidence limit								204 600 (=actual)	204 354 (99%) 199 117 209 591	216 620 (N/A) 210 324 222 915
		Actual filings	157 434	161 932	175 643	191 498	204 027	215 586	218 757	204 600	212 896	N/A

¹) First and subsequent Euro-direct and Euro-PCT-IP filings excluding divisional filings

Table 4: Comparison of recommended forecasts since 2003 (Random group)

4 Methodology and Individual Forecasts

Section 4.1 details the methodology employed for obtaining the growth forecasts. In **Sections 4.2 and 4.3**, results for the Biggest group and the Random group are presented respectively. Detailed results for all sample groupings itemised by mega cluster are given in **Section 4.4**.⁹

4.1 Methodology and Structure of Results

The main part of the survey covers the predictions of future patent filings and the basic approach was the same as in the previous surveys. For a detailed description of the methodology please refer to the *Applicant Panel Survey 2003 report*. The survey data from the main questions in **Part B** of the questionnaire are used to measure patent growth rates. For the Biggest group, growth rates are calculated as a **Composite index**.¹⁰ Growth rates in the Random group are calculated as a **Q index**.¹¹ This involves weighting each applicant's response with a so-called Poisson weight, to account for the fact that the Random group is a random sample of applications, rather than of applicants. The number of filings an applicant has made is a central factor in the determination of the Poisson weight. Traditionally, and in order to align with the sampling procedure, this number of filings was taken from the EPO's database recorded for each applicant. Using these "database-tethered Poisson weights" ensures that the number of filings which directly determined each applicant's probability of inclusion in the sample is used in the weighting procedure.

However, the respondent is also asked to give the number of filings that were made in the base year on the questionnaire, and this may differ from the number recorded in the EPO's database. One of the main reasons for this is that the respondent may actually be answering for a different, or overlapping, entity to the one that was selected as assumed from the EPO's database. Specifically, the respondent may represent a smaller or larger company than the database entity does. This year for the first time, the extent of such mismatching was minimised by selecting applicants from the database on the basis of identical or very similar names, rather than by using applicant code numbers.

As a further check on the effect of mismatching, a second set of weights, so-called "respondent-based Poisson weights", were computed. Although these weights do not fully align with the sampling inclusion probability, they have the desirable property of weighting future filing expectations with the same base filing number that the respondent had in mind when answering the questionnaire.

All the forecasts in the main part of this report are calculated using database-tethered Poisson weights. An overview of forecast results obtained using respondent-based Poisson weights can be found in **Annex IX**.

⁹ See Annex III, Section 9, for an explanation of mega clusters.

¹⁰ Cf. Applicant Panel Survey 2001 report: Annex III.

¹¹ Cf. Applicant Panel Survey 2002 report: Section IV.1, Annex IV.

As in previous years, a natural logarithmic transformation was applied to the data before calculating the Q index.¹² A finite population correction (fpc) was included when calculating the confidence limits for forecasts of total patent filings. Details on the construction of the finite population correction are given in the Applicant Panel Survey 2006 report¹³. Specific fpc values used this year are explained in **Annex III, Section 9.2**.

When analysing data subsets, e.g. itemisations by residence blocs or mega clusters, cases arise where the sample size falls below a critical threshold of five respondents. In such cases, for either the Composite index or for the Q index, replacement is done by a growth value taken from the corresponding analysis on the next available level of aggregation. In the results tables, the replacement of growth indices with aggregated values is marked with an asterisk (*).

Once the growth indices were calculated based on the survey results, they were multiplied by the actual numbers of filings (excluding divisional filings) in the 2009 base year in order to generate explicit forecasts. Data on Euro-direct, PCT-IP and Euro-PCT-RP filings for 2009 and 2010 were supplied by the EPO on February 11, 2011, and reflect the status of the database about one week before that date.

The patent filing predictions are presented in various **breakdown scenarios**. Based on the resulting forecasts by accumulation, an overall growth forecast is derived for each year. Of particular interest for the EPO are filing predictions on the level of the five industry-based "mega clusters". As the Random group constitutes a random sample across applications, the responses can be disaggregated by mega cluster as an alternative to the breakdown by residence bloc. The motivation here is twofold: firstly, the EPO would like to obtain growth estimates for specific technical areas of expertise in order to be better able to adjust capacities to changing demand. Secondly, it is intuitive that the dynamics of innovation vary by industrial sector. However, as appealing as forecasts based on a mega cluster breakdown may seem, it should be noted that this survey's design is not particularly well suited for mega cluster specific predictions. This is due to the fact that respondents are not asked to provide mega cluster specific filing expectations, rather they are requested to place their business areas into one or more classes that are then aggregated to form mega clusters. Thus, when forecasting mega cluster growth rates, this survey has to rely on overall growth expectations given by every respondent active in a specific mega cluster, with appropriate corrections to weights to avoid over-representation of companies active in more than one mega cluster.

In many cases, the responses on growth forecasts in the questionnaire (**Part B**) made it necessary for the researchers to validate them, usually by conducting a clarifying conversation with the respondent. After the validation attempts, the validity and integrity of some responses remained doubtful and such cases were marked with a **critical code**. In this year's survey, 46 cases, or 6%, of survey responses were ultimately marked with a critical code. There are also non-critical codes. A new procedure was adopted this year to consider fewer of the codes as being critical, but to carry out the main analyses on responses that did not attract a critical code. For details, please refer to plausibility checks described in **Annex I, Section 7.6**.

¹² Cf. Applicant Panel Survey 2002 report: Annex IV.

¹³ Cf. Applicant Panel Survey 2006 report: Annex VII, page 79.

So this year for the first time, all forecast methods were employed once for the reduced dataset excluding all cases marked with a critical code, and once for the full dataset including cases with a critical code. In contrast to previous years, except in cases where it is explicitly stated otherwise, all forecasts, tables and figures are based solely on the reduced dataset excluding critical cases. To assess the impact of reincluding all cases, some forecasts and tables are presented twice, once for the reduced and once for the full dataset.

As a means of analysing and reducing distortions by outliers, the technique of **winsorisation** was applied.¹⁴ Using this method, the data were adjusted by replacing the most extreme growth indices after logarithmic transformation. Indices that fall below the 5% percentile and indices that lie above the 95% percentile are replaced by the respective percentile. The adjusted data were then used for carrying out Q index calculations according to the various breakdown scenarios. Two forecasting tables based on winsorised data are included in this report. In contrast to last year, winsorisation analyses did not reveal any suspicious outliers and the resulting forecasts are similar to the ones based on the same forecast method without winsorisation. However, as is to be expected, the winsorisation does have the effect of reducing the standard errors of the estimates somewhat.

4.2 Biggest group

This year, the Biggest group is based on a sample of 414 addresses found for Euro-direct filings and Euro-PCT-RP filings, being all the applicants making at least 35 such applications (in total including divisionals) in 2009. From this group, 179 had responded to the 2009 Future Filings Survey (43.2%).

It is considered appropriate to calculate growth rates for the Biggest group as a Composite index (CI).¹⁵ Detailed information on the forecasts by filing type and route are shown in **Table 5** and **Figure 4** (no subsidiary breakdown). **Table 6** shows details of the forecasts by filing type and route where the four residence blocs Europe (EPC), Japan (JA), Other (OT), and the US are differentiated (broken down by residence blocs). No confidence limits are given for the estimates as this is a survey of the intentions of the Biggest applicants and not of a random statistical sample. The forecasts for the absolute number of both Euro-direct and PCT-IP filings are illustrated in **Figure 4**, based on the analysis with no subsidiary breakdown.

¹⁴ Cf. Applicant Panel Survey 2006 report: Section 7.5.

¹⁵ Cf. Applicant Panel Survey 2001 report: Annex III.

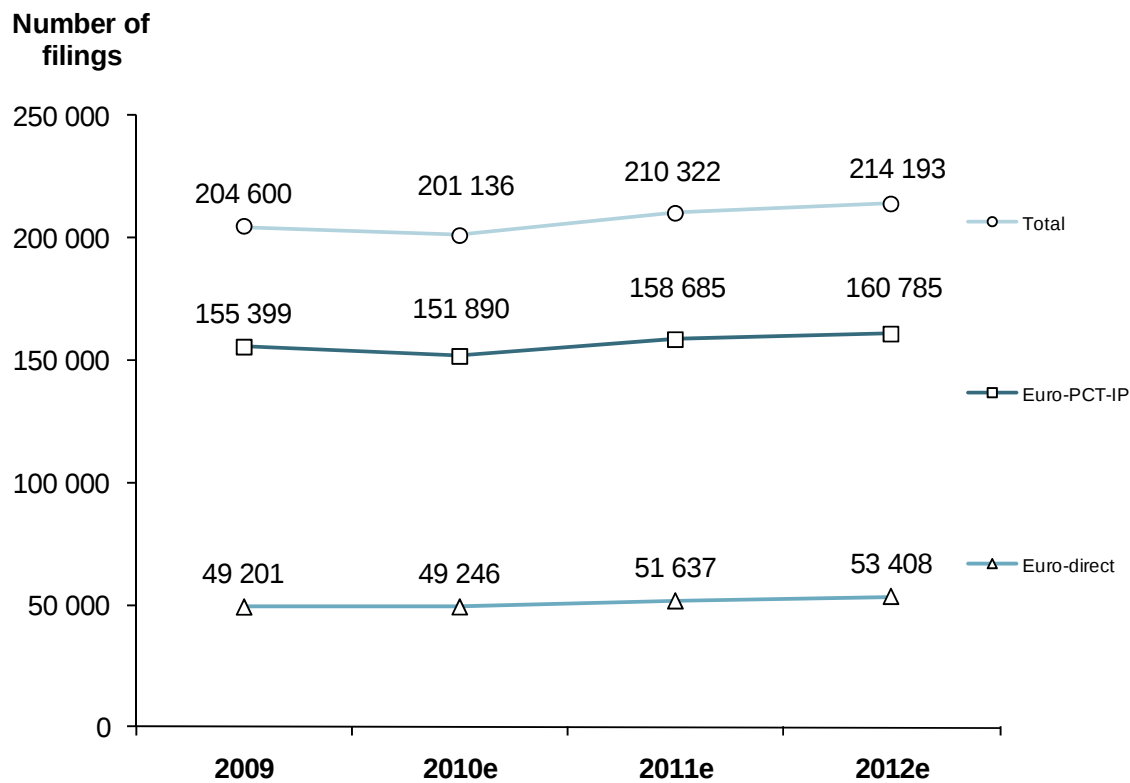


Figure 4: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group (excluding critical comments)
No subsidiary breakdown
Composite indices

			Year											
Filing type	Filing route	Res. bloc	2009		2010			2011			2012			
			Actual filings	Cases 10	Index 10	Predicted filings	Actual filings	Cases 11	Index 11	Predicted filings	Cases 12	Index 12	Predicted filings	
First	Euro-direct	Total	18 702	57	1.0152	18 987	18 951	51	1.0752	20 109	47	1.1290	21 115	
	Euro-PCT-IP	Total	13 232	43	1.0338	13 679	14 087	38	1.0693	14 149	36	1.0921	14 450	
Subsequent	Euro-direct	Total	30 499	88	0.9921	30 259	31 045	77	1.0337	31 528	74	1.0588	32 292	
	Euro-PCT-IP	Total	142 167	124	0.9722	138 211	148 813	107	1.0167	144 536	103	1.0293	146 335	
All	Euro-direct	Total	49 201			49 246	49 996			51 637			53 408	
	Euro-PCT-IP	Total	155 399			151 890	162 900			158 685			160 785	
Grand total			Total			201 136	212 896			210 322			214 193	
Growth from 2009						-1.7%	4.1%			2.8%			4.7%	
Implied % Euro-PCT-IP						76.0%	75.5%			75.4%			75.1%	

Table 5: Forecasts for EPO filings – Biggest group with no subsidiary breakdown

Biggest group (excluding critical comments)
Breakdown by residence bloc
Composite indices

		Res. bloc	Year											
Filing type	Filing route		2009	2010				2011				2012		
			Actual filings	Cases 10	Index 10	Predicted filings	Actual filings	Cases 11	Index 11	Predicted filings	Cases 12	Index 12	Predicted filings	
First	Euro-direct	EP	16 651	46	1.0003	16 657	16 787	42	1.0667	17 762	39	1.1176	18 609	
		JA	253	5 *	1.0152	257	187	3 *	1.0752	272	3 *	1.1290	286	
		OT	852	0 *	1.0152	865	1 003	0 *	1.0752	916	0 *	1.1290	962	
		US	946	6	1.1231	1 062	974	6	1.2035	1 139	5 *	1.1290	1 068	
		Total	18 702	57		18 841	18 951	51		20 088	47		20 925	
First	Euro-PCT-IP	EP	4 472	25	1.0475	4 685	4 556	23	1.0890	4 870	21	1.1009	4 923	
		JA	3 129	16	1.0129	3 170	3 280	13	1.0104	3 162	13	1.0151	3 176	
		OT	3 788	0 *	1.0338	3 916	4 378	0 *	1.0693	4 051	0 *	1.0921	4 137	
		US	1 842	2 *	1.0338	1 904	1 873	2 *	1.0693	1 970	2 *	1.0921	2 012	
		Total	13 232	43		13 675	14 087	38		14 053	36		14 248	
Subsequent	Euro-direct	EP	15 246	48	0.9939	15 152	15 480	45	1.0320	15 733	44	1.0582	16 133	
		JA	6 771	30	0.9748	6 600	6 078	24	1.0136	6 863	23	1.0273	6 956	
		OT	3 656	0 *	0.9921	3 627	4 218	0 *	1.0337	3 779	0 *	1.0588	3 871	
		US	4 826	10	1.0249	4 946	5 269	8	1.0693	5 161	7	1.1038	5 327	
		Total	30 499	88		30 326	31 045	77		31 536	74		32 287	
Subsequent	Euro-PCT-IP	EP	49 074	68	0.9613	47 174	48 333	63	0.9952	48 840	60	1.0073	49 431	
		JA	26 673	42	1.0385	27 699	28 876	34	1.0824	28 870	34	1.0836	28 902	
		OT	22 646	0 *	0.9722	22 015	28 622	0 *	1.0167	23 023	0 *	1.0293	23 309	
		US	43 775	14	0.8711	38 135	42 982	10	0.9664	42 305	9	0.9951	43 562	
		Total	142 167	124		135 023	148 813	107		143 037	103		145 205	
All	Euro-direct	EP	31 897			31 809	32 267			33 495			34 742	
		JA	7 024			6 857	6 265			7 135			7 242	
		OT	4 508			4 492	5 221			4 695			4 833	
		US	5 772			6 008	6 243			6 299			6 395	
		Total	49 201			49 167	49 996			51 625			53 211	
All	Euro-PCT-IP	EP	53 546			51 859	52 889			53 710			54 354	
		JA	29 802			30 869	32 156			32 031			32 078	
		OT	26 434			25 932	33 000			27 074			27 447	
		US	45 617			40 039	44 855			44 274			45 574	
		Total	155 399			148 698	162 900			157 090			159 453	
Grand total	Total	EP	85 443			83 668	85 156			87 205			89 096	
		JA	36 826			37 725	38 421			39 166			39 320	
		OT	30 942			30 424	38 221			31 769			32 280	
		US	51 389			46 047	51 098			50 573			51 969	
		Total	204 600			197 865	212 896			208 714			212 664	
Growth from 2009						-3.3%	4.1%					3.9%		
Implied Euro-PCT-IP						75.2%	76.5%			75.3%		75.0%		

Table 6: Forecasts for EPO filings – Biggest group, broken down by residence blocs

4.3 Random group

The Random group this year is based on a sample of 2 244 addresses found for Euro-direct filings and Euro-PCT-RP filings, of which 780 responded to the survey (34.8%).

For responses from the Random group, the Q index method was used following logarithmic transformation of the data. All results tables for the Random group analyses show the numbers of cases that estimates were based on, Q indices with their standard errors, the resulting filing forecasts, and the 95% confidence intervals based thereon.¹⁶ Unless explicitly stated otherwise, all results are based on the reduced Random group dataset, excluding cases with critical comments.

The forecasts for numbers of patent filings without a breakdown by residence bloc are illustrated in **Table 7** to **Table 10**. **Figure 5** and **Table 7** depict the results with the usual breakdowns by filing types and filing routes. **Table 8** gives the results of the same forecast method using winsorised data. To address the shifting of, and uncertainty about, filing routes, a forecast combining filing routes Euro-direct and PCT-IP was done, the results of which are displayed in **Figure 1** and **Table 9**. **Table 10** provides the results of the analysis without a breakdown by residence bloc but including those companies which were marked

¹⁶ The Q index is a weighted average of the individual growth rates given by the respondents using "Poisson weights" (weight formula shown in Annex IX). Cf. Applicant Panel Survey 2002 report: Section IV.1, Annex IV. Reported standard errors are based on the logarithms of the respective Q-Index estimates. Cf. Applicant Panel Survey 2002 report, Annex IV. Finite population correction factors are applied. Cf. Applicant panel Survey 2006 report: Annex VII, page 79.

with a critical code. Finally, **Table 11** shows the results of a forecast without subsidiary breakdown and combining Euro-direct and PCT-IP filing routes using all available Random group cases, including those with critical comments.

Analyses for the Random group using a breakdown into the four residence blocs Europe (EPC), Japan (JA), Other (OT) and the US are shown in **Table 12** to **Table 15**. **Table 12** shows the results when using Random group cases without critical comments. **Table 13** depicts the results using winsorised data and **Table 14** shows results when combining Euro-direct and PCT-IP filing routes. Finally, **Table 15** is analogous to the forecast shown in **Table 12**, but includes cases with a critical code.

The analysis corresponding to **Table 7**, with no subsidiary breakdown, was used for the recommended filing forecasts in the 2005, 2007 and 2008 reports. This recommendation was based mostly on narrow confidence intervals of the forecast and better adherence to known filing figures of the survey year compared to other forecasting approaches.

In 2009, the recommended forecast method was the one shown in **Table 9** (analysis with no subsidiary breakdown and with Euro-direct and PCT-IP filings combined), because of a better fit with 2009 actual filings and narrower confidence intervals. For this year's survey, the recommendation continues to be to base forecasts on the analysis without subsidiary breakdown and combining Euro-direct and PCT-IP filings. Again, this approach yields the closest reasonable match to actual 2010 filings and is the best in terms of the width of the confidence intervals (with the exception of the confidence intervals of the winsorised estimates).

This year, when comparing analogous forecasts based on the reduced data set (excluding cases with critical codes) with forecasts based on the full Random group data set (including cases with critical codes), it becomes apparent that estimates based on the reduced data set most often result in slightly lower confidence intervals. Also, when comparing two and three-year growth estimates, reduced dataset forecasts tend to be slightly more conservative. Both of these characteristics support the decision to use reduced dataset estimates excluding cases with critical comments as the de facto standard for this report.

Number of filings

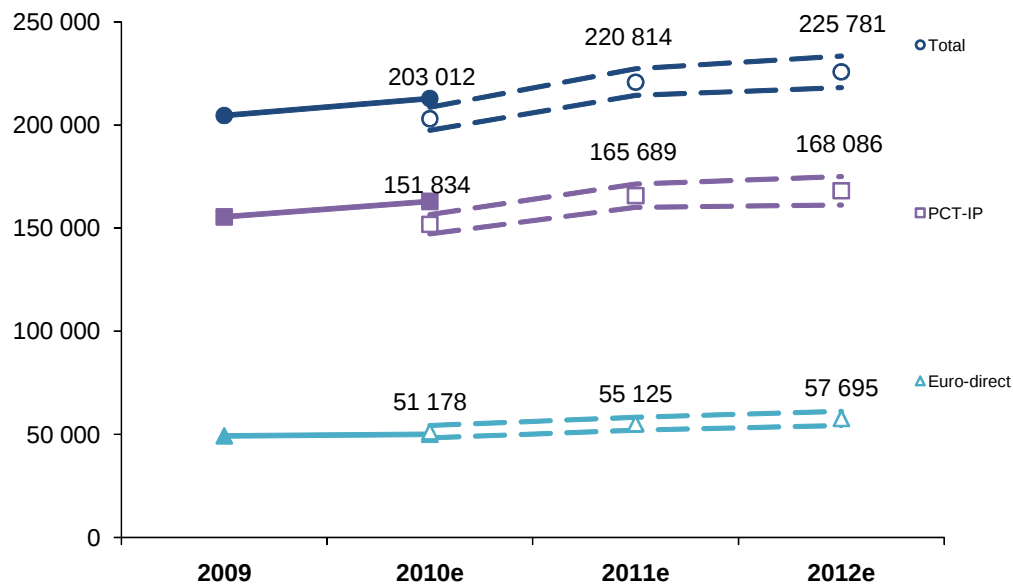


Figure 5: Forecasts for EPO filings – Random group without breakdown by residence blocs (dotted lines illustrate 95% confidence limits)

Random group (excluding critical comments)
No subsidiary breakdown
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

Filing type	Filing route	Res. bloc	Year									
			2009	2010				2011				2012
			Actual filings	Cases 10	Q-index	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index	S.E. 11	Predicted filings
First	Euro-direct	Total	18 702	196	1.1396	0.0489	21 312	18 951	178	1.1834	0.0567	22 132
		LCL					19 266					19 668
		UCL					23 358					24 597
First	Euro-PCT-IP	Total	13 232	127	1.0828	0.0602	14 327	14 087	116	1.2229	0.0674	16 181
		LCL					12 632					14 036
		UCL					16 021					18 326
Subsequent	Euro-direct	Total	30 499	267	0.9792	0.0376	29 966	31 045	252	1.0818	0.0301	32 992
		LCL					27 660					31 044
		UCL					32 072					34 941
Subsequent	Euro-PCT-IP	Total	142 167	364	0.9672	0.0164	137 508	148 813	336	1.0516	0.0179	149 508
		LCL					133 092					144 254
		UCL					141 924					154 761
All	Euro-direct	Total	49 201				51 178	49 996				55 125
		LCL					48 170					51 983
		UCL					54 186					58 267
All	Euro-PCT-IP	Total	155 399				151 834	162 900				165 689
		LCL					147 104					160 014
		UCL					156 564					171 363
Grand total		Total	204 600				203 012	212 896				220 814
		LCL					197 407					214 327
		UCL					208 618					227 300
Growth from 2009							-0.8%	4.1%				7.9%
Implied % Euro-PCT-IP			76.0%				74.8%	76.5%				75.0%
Deviation in % of forecast							2.8%					2.9%

Table 7: Forecasts for EPO filings – Random group with no subsidiary breakdown

Random group (excluding critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009	2010				2011				2012				
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	Euro-direct	Total	18 702	196	1.1188	0.0418	20 924	18 951	178	1.1644	0.0465	21 777	163	1.2510	0.0479	23 396
		LCL					19 209					19 789				21 198
		UCL					22 638					23 765				25 595
First	Euro-PCT-IP	Total	13 232	127	1.0845	0.0558	14 350	14 087	116	1.2217	0.0652	16 166	110	1.2664	0.0799	16 757
		LCL					12 778					14 094				14 120
		UCL					15 922					18 237				19 394
Subsequent	Euro-direct	Total	30 499	267	0.9763	0.0338	29 776	31 045	252	1.0734	0.0274	32 738	242	1.0946	0.0298	33 385
		LCL					27 800					30 976				31 432
		UCL					31 752					34 499				35 338
Subsequent	Euro-PCT-IP	Total	142 167	364	0.9675	0.0152	137 551	148 813	336	1.0500	0.0163	149 280	318	1.0656	0.0199	151 498
		LCL					133 449					144 503				145 602
		UCL					141 654					154 058				157 394
All	Euro-direct	Total	49 201				50 700	49 996				54 515				56 781
		LCL					48 084					51 859				53 841
		UCL					53 316					57 171				59 722
All	Euro-PCT-IP	Total	155 399				151 901	162 900				165 446				168 255
		LCL					147 508					160 239				161 796
		UCL					156 295					170 654				174 715
Grand total		Total	204 600				202 601	212 896				219 961				225 037
		LCL					197 488					214 115				217 940
		UCL					207 714					225 807				232 134
Growth from 2009							-1.0%	4.1%					7.5%			10.0%
Implied % Euro-PCT-IP			76.0%				75.0%	76.5%					75.2%			74.8%
Deviation in % of forecast							2.5%						2.7%			3.2%

Table 8: Forecasts for EPO filings – Random group with no subsidiary breakdown, analysis employing winsorisation

Random group (excluding critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
Filing type	Filing route	Res. bloc	2009	2010				2011				2012				
			Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	All	Total	31 934	152	1.0825	0.0407	34 570	33 038	142	1.1193	0.0502	35 744	133	1.2123	0.0479	38 711
		LCL					31 806					32 223				35 070
		UCL					37 334					39 266				42 354
Subsequent	All	Total	172 666	304	0.9833	0.0134	169 784	179 858	285	1.0475	0.0147	180 876	274	1.0624	0.0167	183 446
		LCL					165 336					175 657				177 425
		UCL					174 232					186 094				189 466
Grand total		Total	204 600				204 354	212 896				216 620				222 160
		LCL					199 117					210 324				215 126
		UCL					209 591					222 915				229 195
Growth from 2009																
Deviation in % of forecast								4.1%								
							2.6%					2.9%				3.2%

Table 9: Forecasts for EPO filings – Random group with no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

Random group (including critical comments)
No subsidiary breakdown
Q-Indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009	2010				2011				2012				
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	Euro-direct	Total	18 702	209	1.1372	0.0480	21 269	18 951	191	1.1879	0.0553	22 215	176	1.2939	0.0547	24 199
		LCL					19 264					19 801				21 598
		UCL					23 273					24 629				26 799
First	Euro-PCT-IP	Total	13 232	135	1.0912	0.0596	14 439	14 087	124	1.2387	0.0666	16 390	117	1.2905	0.0801	17 075
		LCL					12 748					14 244				14 380
		UCL					16 131					18 536				19 770
Subsequent	Euro-direct	Total	30 499	288	0.9709	0.0370	29 611	31 045	273	1.0805	0.0303	32 965	263	1.1076	0.0326	33 781
		LCL					27 460					30 998				31 620
		UCL					31 763					35 942				36 942
Subsequent	Euro-PCT-IP	Total	142 167	390	0.9636	0.0180	136 998	148 813	363	1.0619	0.0201	150 971	344	1.0723	0.0226	152 441
		LCL					132 172					145 024				145 671
		UCL					141 823					156 919				159 211
All	Euro-direct	Total	49 201				50 880	49 996				55 170				57 980
		LCL					47 940					52 063				54 598
		UCL					53 820					58 278				61 361
All	Euro-PCT-IP	Total	155 399				151 437	162 900				167 361				169 516
		LCL					146 323					161 038				162 230
		UCL					156 550					173 684				176 803
Grand total		Total	204 600				202 316	212 896				222 532				227 496
		LCL					196 418					215 486				219 463
		UCL					208 215					229 577				235 529
Growth from 2009							-1.1%	4.1%				8.8%				11.2%
Implied % Euro-PCT-IP			76.0%				74.9%	76.5%				75.2%				74.5%
Deviation in % of forecast*							2.9%					3.2%				3.5%

Table 10: Forecasts for EPO filings – Random group including companies with critical comments, no subsidiary breakdown

Random group (including critical comments)
No subsidiary breakdown
Q-indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009			2010			2011			2012				
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	All	Total	31 934	166	1.0858	0.0405	34 674	33 038	157	1.1304	0.0493	36 097	147	1.2377	0.0475	39 52
		LCL					31 921					32 605				35 84
		UCL					37 427					39 590				43 20
Subsequent	All	Total	172 666	333	0.9776	0.0142	168 794	179 858	314	1.0551	0.0160	182 184	303	1.0667	0.0179	184 18
		LCL					164 090					176 486				177 72
		UCL					173 498					187 881				190 64
Grand total		Total	204 600				203 468	212 896				218 281				223 71
		LCL					198 018					211 598				216 27
		UCL					208 918					224 964				231 15
Growth from 2009																
Deviation in % of forecast							-0.6%	4.1%				6.7%				9.3%
							2.7%					3.1%				3.3%

Table 11: Forecasts for EPO filings – Random group including companies with critical comments, no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

Filing type	Filing route	Res. bloc	Year													
			2009		2010					2011			2012			
			Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	Euro-direct	EP	16 651	164	1.1043	0.0467	18 388	16 787	152	1.1730	0.0555	19 532	139	1.2666	0.0527	21 089
		JA	253	9	1.5802	0.1978	400	187	5 *	1.1834	0.0567	299	6	1.4938	0.3912	378
		OT	852	3 *	1.1396	0.0489	971	1 003	3 *	1.1834	0.0567	1 008	2 *	1.2785	0.0564	1 089
		US	946	20	1.0262	0.1039	971	974	18	1.1019	0.1160	1 042	16	1.2248	0.1458	1 159
		Total	18 702	196			20 730	18 951	178			21 682	163			23 715
First	Euro-PCT-IP	LCL					19 022					19 735				21 480
		UCL					22 437					24 030				25 951
		EP	4 472	84	1.1422	0.0878	5 108	4 556	78	1.2872	0.0885	5 756	73	1.3387	0.1076	5 987
		JA	3 129	29	1.0298	0.0499	3 222	3 280	25	1.1347	0.0510	3 551	25	1.1607	0.0555	3 632
		OT	3 788	4 *	1.0828	0.0602	4 102	4 378	4 *	1.2229	0.0674	4 633	4 *	1.2641	0.0804	4 789
Subsequent	Euro-direct	US	1 842	10	0.8031	0.0821	1 479	1 873	9	0.9062	0.0640	1 669	8	0.9180	0.0770	1 691
		Total	13 232	127			13 912	14 087	116			15 609	110			16 099
		LCL					12 828					14 362				14 543
		UCL					14 995					16 856				17 654
		EP	15 246	171	0.9483	0.0587	14 458	15 480	162	1.0730	0.0426	16 359	157	1.1028	0.0449	16 814
Subsequent	Euro-PCT-IP	JA	6 771	61	1.0124	0.0179	6 855	6 078	54	1.0549	0.0233	7 143	52	1.0647	0.0269	7 209
		OT	3 656	8	1.1556	0.1658	4 225	4 218	9	1.3149	0.2043	4 807	9	1.4112	0.1791	5 159
		US	4 826	27	1.0576	0.0777	5 104	5 269	27	1.1595	0.0894	5 596	24	1.1989	0.1080	5 786
		Total	30 499	267			30 642	31 045	252			33 905	242			34 968
		LCL					28 315					31 279				32 263
Subsequent	Euro-PCT-IP	UCL					32 969					36 530				37 673
		EP	49 074	220	0.9657	0.0208	47 392	48 333	207	1.0418	0.0248	51 127	196	1.0479	0.0285	51 425
		JA	26 673	95	0.9839	0.0255	26 243	28 876	83	1.0648	0.0162	28 400	80	1.0755	0.0171	28 686
		OT	22 646	8	0.9960	0.1557	22 555	28 622	9	1.2617	0.1846	28 571	8	1.2593	0.2335	28 519
		US	43 775	41	0.9337	0.0553	40 871	42 982	37	1.0566	0.0565	46 251	34	1.1147	0.0788	48 794
All	Euro-direct	Total	142 167	364			137 060	148 813	336			154 350	318			157 423
		LCL					128 441					142 272				141 570
		UCL					145 680					166 427				173 276
		EP	31 897				32 846	32 267				35 892				37 903
		JA	7 024				7 255	6 265				7 442				7 587
All	Euro-PCT-IP	OT	4 508				5 196	5 221				5 815				6 249
		US	5 772				6 075	6 243				6 638				6 945
		Total	49 201				51 371	49 996				55 787				58 684
		LCL					48 485					52 395				55 175
		UCL					54 258					59 179				62 192
Grand total	Total	EP	53 546				52 500					56 884				57 411
		JA	29 802				29 465					31 951				32 318
		OT	26 434				26 657					33 204				33 308
		US	45 617				42 350					47 921				50 485
		Total	155 399				150 972	162 900				169 959				173 522
Grand total	Total	LCL					142 284					157 817				157 592
		UCL					159 660					182 101				189 451
		EP	85 443				85 346					92 775				95 314
		JA	36 826				36 720					39 393				39 905
		OT	30 942				31 853					39 019				39 556
Grand total	Total	US	51 389				48 425					54 558				57 430
		Total	204 600				202 343	212 896				225 746				232 205
		LCL					193 189					213 139				215 894
		UCL					211 498					238 353				248 516
		Growth from 2009					-1.1%	4.1%				10.3%				13.9%
Deviation in % of forecast	Implied Euro-PCT-IP					74.6%	76.5%				75.3%				74.7%	
						4.5%					5.6%				7.0%	

Table 12: Forecasts for EPO filings – Random group broken down by residence blocs

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009		2010				2011				2012			
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	Euro-direct	EP	16 651	164	1.1018	0.0448	18 345	16 787	152	1.1740	0.0499	19 549	139	1.2595	0.0502	20 971
		JA	253	9	1.3511	0.1231	342	187	5 *	1.1834	0.0567	299	6	1.1843	0.2521	300
		OT	852	3 *	1.1396	0.0489	971	1 003	3 *	1.1834	0.0567	1 008	2 *	1.2785	0.0564	1 089
		US	946	20	1.0179	0.0760	963	974	18	1.0732	0.0700	1 015	16	1.1888	0.0791	1 125
		Total	18 702	196			20 621	18 951	178			21 872	163			23 485
		LCL					18 995					19 947				21 402
First	Euro-PCT-IP	EP	4 472	84	1.1408	0.0812	5 102	4 556	78	1.2867	0.0855	5 754	73	1.3422	0.1070	6 002
		JA	3 129	29	1.0302	0.0485	3 224	3 280	25	1.1306	0.0497	3 538	25	1.1607	0.0555	3 632
		OT	3 788	4 *	1.0828	0.0602	4 102	4 378	4 *	1.2229	0.0674	4 633	4 *	1.2641	0.0804	4 789
		US	1 842	10	0.8314	0.0535	1 531	1 873	9	0.9062	0.0640	1 669	8	0.9180	0.0770	1 691
		Total	13 232	127			13 959	14 087	116			15 594	110			16 114
		LCL					12 949					14 378				14 562
Subsequent	Euro-direct	EP	15 246	171	0.9538	0.0536	14 541	15 480	162	1.0725	0.0401	16 351	157	1.0956	0.0428	16 704
		JA	6 771	61	1.0115	0.0158	6 849	6 078	54	1.0533	0.0211	7 132	52	1.0632	0.0235	7 199
		OT	3 656	8	1.1326	0.1528	4 141	4 218	9	1.3149	0.2043	4 807	9	1.4112	0.1791	5 159
		US	4 826	27	1.0000	0.0433	4 826	5 269	27	1.0917	0.0489	5 269	24	1.1194	0.0606	5 402
		Total	30 499	267			30 357	31 045	252			33 559	242			34 464
		LCL					28 319					31 120				32 027
Subsequent	Euro-PCT-IP	EP	49 074	220	0.9623	0.0188	47 224	48 333	207	1.0394	0.0221	51 005	196	1.0493	0.0259	51 495
		JA	26 673	95	0.9888	0.0249	26 374	28 876	83	1.0621	0.0152	28 330	80	1.0728	0.0162	28 614
		OT	22 646	8	0.9960	0.1557	22 555	28 622	9	1.2813	0.1758	29 015	8	1.2813	0.2245	29 015
		US	43 775	41	0.9410	0.0517	41 194	42 982	37	1.0599	0.0557	46 396	34	1.1196	0.0769	49 009
		Total	142 167	364			137 348	148 813	336			154 746	318			158 133
		LCL					128 907					143 080				142 688
All	Euro-direct	EP	31 897				32 886	32 267				35 900				37 675
		JA	7 024				7 191	6 265				7 431				7 499
		OT	4 508				5 112	5 221				5 815				6 249
		US	5 772				5 789	6 243				6 284				6 527
		Total	49 201				50 978	49 996				55 431				57 949
		LCL					48 371					52 324				54 743
All	Euro-PCT-IP	EP	53 546				52 326	56 760				56 760				57 497
		JA	29 802				29 588	31 868				31 868				32 240
		OT	26 434				26 057	33 648				33 648				33 804
		US	45 617				42 726	48 065				48 065				50 700
		Total	155 399				151 307	162 900				170 340				174 247
		LCL					142 805					158 611				158 725
Grand total	Total	EP	85 443				85 212					92 660				95 172
		JA	36 826				36 789					39 299				39 745
		OT	30 942				31 769					39 463				40 053
		US	51 389				48 515					54 349				57 227
		Total	204 600				202 284	212 896				225 771				232 197
		LCL					193 392					213 637				216 346
Growth from 2009								-1.1%	4.1%				10.3%			13.5%
Implied Euro-PCT-IP								74.8%	76.5%				75.4%			76.0%
Deviation in % of forecast								4.4%					5.4%			6.5%

Table 13: Forecasts for EPO filings – Random group broken down by residence blocs, analysis employing winsorisation

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009			2010			2011			2012				
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	All	EP	21 123	105	1.0217	0.0358	21 582	21 343	100	1.0716	0.0492	22 636	92	1.1781	0.0412	24 886
		JA	3 382	28	1.2379	0.1041	4 187	3 467	25	1.2646	0.1345	4 277	25	1.2883	0.1358	4 357
		OT	4 640	3	0.9893	0.0078	4 591	5 381	3	0.9247	0.1223	4 291	3	0.9760	0.1523	4 529
		US	2 788	16	1.2220	0.1537	3 407	2 847	14	1.2554	0.1487	3 500	13	1.3620	0.1603	3 797
		Total	31 934	152			33 767	33 038	142			34 704	133			37 569
		LCL					31 734					31 833				34 601
Subsequent	All	EP	64 320	179	0.9658	0.0195	62 123	63 813	170	1.0282	0.0200	66 137	165	1.0459	0.0221	67 270
		JA	33 444	86	1.0155	0.0113	33 963	34 954	77	1.0659	0.0147	35 648	75	1.0607	0.0176	35 474
		OT	26 302	5	1.0179	0.0696	26 773	32 840	5	1.1835	0.2074	31 127	4	1.3349	0.2879	35 109
		US	48 601	34	0.9837	0.0518	47 807	48 251	33	1.1011	0.0498	53 515	30	1.1511	0.0628	55 946
		Total	172 666	304			170 666	179 858	285			186 426	274			193 798
		LCL					164 085					172 075				171 389
Grand total	Total	EP	85 443				83 705	85 156				88 773				92 155
		JA	36 826				38 150	38 421				39 925				39 832
		OT	30 942				31 364	38 221				35 418				39 638
		US	51 389				51 214	51 090				57 015				59 743
		Total	204 600				204 433	212 896				221 131				231 368
		LCL					197 545					206 495				208 762
Growth from 2009							-0.1%	4.1%					8.1%			13.1%
Deviation in % of forecast							3.4%						6.6%			9.8%

Table 14: Forecasts for EPO filings – Random group, broken down by residence blocs (Euro-direct and PCT-IP filings combined)

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

Filing type	Filing route	Res. bloc	Year													
			2009	2010				2011				2012				
			Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
First	Euro-direct	EP	16 651	176	1.1029	0.0461	18 364	16 787	164	1.1786	0.0543	19 625	151	1.2852	0.0513	21 400
		JA	253	9	1.5802	0.1978	400	187	5 *	1.1879	0.0553	301	6	1.4938	0.3912	378
		OT	852	4 *	1.1372	0.0480	969	1 003	4 *	1.1879	0.0553	1 012	3 *	1.2939	0.0547	1 102
		US	946	20	1.0262	0.1039	971	974	18	1.1019	0.1160	1 042	16	1.2248	0.1458	1 159
		Total	18 702	209			20 704	18 951	191			21 980	176			24 039
First	Euro-PCT-IP	LCL					19 020					19 869			21 830	
		UCL					22 387					24 091			26 247	
		EP	4 472	91	1.1542	0.0864	5 162	4 556	85	1.3089	0.0871	5 854	79	1.3767	0.1071	6 157
		JA	3 129	30	1.0295	0.0495	3 222	3 280	26	1.1327	0.0500	3 544	26	1.1583	0.0544	3 625
		OT	3 788	4 *	1.0912	0.0596	4 134	4 378	4 *	1.2387	0.0666	4 693	4 *	1.2905	0.0801	4 889
Subsequent	Euro-direct	US	1 842	10	0.8031	0.0821	1 479	1 873	9	0.9062	0.0640	1 669	8	0.9180	0.0770	1 691
		Total	13 232	135			13 997	14 087	124			15 760	117			16 361
		LCL					12 919					14 514			14 776	
		UCL					15 074					17 006			17 946	
		EP	15 246	188	0.9375	0.0571	14 293	15 480	179	1.0679	0.0426	16 281	174	1.0988	0.0449	16 752
Subsequent	Euro-PCT-IP	JA	6 771	62	1.0143	0.0179	6 868	6 078	55	1.0594	0.0234	7 174	53	1.0693	0.0270	7 240
		OT	3 056	9	1.1386	0.1495	4 163	4 218	10	1.3669	0.1887	4 998	10	1.4576	0.1652	5 329
		US	4 826	29	1.0438	0.0760	5 037	5 269	29	1.1622	0.0876	5 609	26	1.2050	0.1060	5 815
		Total	30 499	288			30 361	31 045	273			34 061	263			35 136
		LCL					28 184					31 510			32 507	
Subsequent	Euro-PCT-IP	UCL					32 538					36 611			37 766	
		EP	49 074	238	0.9595	0.0245	47 085	48 333	226	1.0540	0.0285	51 726	215	1.0582	0.0309	51 932
		JA	26 073	100	0.9834	0.0246	26 230	28 876	87	1.0615	0.0159	28 314	84	1.0697	0.0168	28 532
		OT	22 646	8	0.9960	0.1557	22 555	28 622	10	1.3451	0.1772	30 459	8	1.2593	0.2335	28 519
		US	43 775	44	0.9359	0.0534	40 971	42 982	40	1.0778	0.0562	47 181	37	1.1402	0.0772	49 913
All	Euro-direct	Total	142 167	390			136 841	148 813	363			157 680	344			158 986
		LCL					128 218					145 284			142 803	
		UCL					145 465					170 076			174 808	
		EP	31 897				32 657	32 267				35 906			38 152	
		JA	7 024				7 268	6 265				7 474			7 618	
All	Euro-PCT-IP	OT	4 508				5 132	5 221				6 010			6 431	
		US	5 772				6 008	6 243				6 651			6 974	
		Total	49 201				51 065	49 996				56 041			59 175	
		LCL					48 313					52 730			55 741	
		UCL					53 816					59 351			62 609	
Grand total	Total	EP	53 546				52 247					57 579			58 089	
		JA	29 802				29 452					31 859			32 157	
		OT	26 434				26 699					35 152			33 407	
		US	45 617				42 450					48 850			51 604	
		Total	155 399				150 838	162 900				173 440			175 257	
Grand total	Total	LCL					142 147					160 982			159 265	
		UCL					159 528					185 898			191 248	
		EP	85 443				84 904					93 485			96 241	
		JA	36 826				36 720					39 333			39 775	
		OT	30 942				31 821					41 162			39 839	
Growth from 2009	Implied Euro-PCT-IP	US	51 389				48 458					55 501			58 577	
		Total	204 600				201 992	212 896				229 481			234 432	
		LCL					192 797					216 590			218 076	
		UCL					211 018					242 371			250 788	
							-1.3%	4.1%				12.2%			14.6%	
Deviation in % of forecast		Implied Euro-PCT-IP						74.7%	76.5%					74.8%		
								4.5%					5.8%			
													7.0%			

Table 15: Forecasts for EPO filings – Random group including companies with critical comments, broken down by residence blocs

4.4 Results broken down by mega cluster

The forecasts for EPO filings were analysed with primary breakdowns by mega clusters based on amalgamated joint clusters (see **Annex III, Section 7.8.4** and **Section 9.1**). For the Biggest group sample, the composite indices were calculated, while for the Random group sample, Q indices were calculated.

This year's forecasts employing a mega cluster breakdown are based on the modified weight allocation first described in last year's report¹⁷. This weight allocation scheme ensures that an applicant's growth estimates retain the same overall leverage, regardless of the number of mega clusters the applicant may be active in.

When deriving the standard error for mega cluster based analyses, a correction factor is included to avoid distortions caused by multiple mega cluster classifications. For the Random group, this correction factor takes into account the average repetition factor in this year's survey of 1.60 (versus 1.57 in the previous year's survey), and widens the confidence limits by multiplying standard errors by 1.26 (the square root of 1.60). As previously for the calculation of standard errors, a finite population correction is also applied, which has the compensatory effect of narrowing the confidence limits.

¹⁷ Cf. Future Filings Survey 2009 report: Section 4.4.

The forecasts of filings by filing type, filing route and joint cluster for the Biggest group are shown in **Table 16**. The analogous forecasts for the Random group broken down by mega clusters are illustrated in **Figure 6** (and **Table 17**).

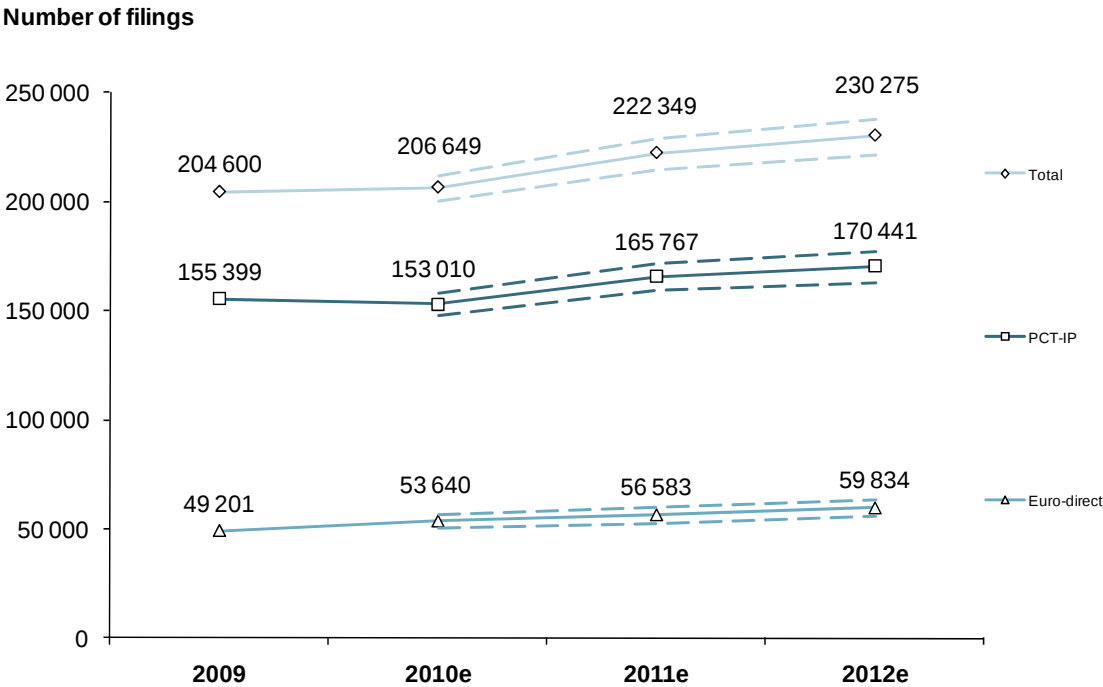


Figure 6: Forecasts for EPO filings based on breakdown by mega clusters for the Random group (dotted lines illustrating 95% confidence limits)

As was already the case last year, the aggregated forecasts for total filings and standard errors are not too dissimilar to those with no subsidiary breakdown (e.g. compare **Table 5** with **Table 16**, or **Table 7** with **Table 17**). While this strengthens the degree of trust that can be placed in the forecasts for Total filings with a breakdown by mega clusters, there are still some technical issues that suggest that such forecasts should be interpreted with caution. Chiefly, these are that future filing expectations are not explicitly queried with respect to mega clusters, and compensation has to be made to correct for responses involving more than one mega cluster (this is done by fractionating the Poisson weights), also some breakdown combinations can involve rather small numbers of observations.

The approach based on mega clusters, however, remains useful for business planning as it provides forecasts for groups of individual EPO examining departments of the various primary combinations of first, subsequent, Euro-direct and PCT-IP filings.

Biggest group (excluding critical comments)
Breakdown by EPO mega cluster
Composite indices

			Year												
			2009		2010				2011				2012		
Filing type	Filing route	Cluster	Actual filings	Cases 10	Index 10	Predicted filings	Actual filings	Cases 11	Index 11	Predicted filings	Cases 12	Index 12	Predicted filings		
First	Euro-direct	Electricity	3 658	16	1.1005	4 026	3 587	15	1.1549	4 225	13	1.1773	4 307		
		Organic Chemistry	3 566	13	1.1069	3 947	3 665	12	1.1382	4 059	11	1.2321	4 393		
		Inorganic Chemistry	3 046	16	1.1197	3 410	3 250	14	1.1818	3 599	13	1.2460	3 795		
		ICT	2 785	12	0.9024	2 513	2 559	11	0.9262	2 580	11	0.9509	2 648		
		Traditional	5 647	28	0.9789	5 528	5 890	25	0.9969	5 630	23	1.0486	5 922		
		Total	18 702			19 424	18 951			20 093			21 065		
First	Euro-PCT-IP	Electricity	3 210	15	0.9672	3 105	2 467	13	1.0412	3 342	12	1.0625	3 411		
		Organic Chemistry	1 115	15	1.0016	1 116	2 373	14	1.0972	1 223	13	1.1449	1 276		
		Inorganic Chemistry	1 585	10	0.9394	1 489	2 038	9	1.0217	1 619	9	1.1304	1 792		
		ICT	3 129	15	1.0541	3 298	2 192	13	1.0999	3 441	13	1.1067	3 463		
		Traditional	4 193	22	1.0624	4 455	5 018	22	1.1037	4 628	21	1.1321	4 747		
		Total	13 232			13 463	14 087			14 254			14 688		
Subsequent	Euro-direct	Electricity	7 107	35	0.9829	6 986	7 417	30	1.0068	7 156	27	1.0213	7 259		
		Organic Chemistry	697	16	1.0435	727	593	13	1.0849	756	12	1.1115	775		
		Inorganic Chemistry	2 846	19	0.9964	2 836	2 778	16	1.0303	2 933	15	1.0781	3 069		
		ICT	4 973	26	0.9670	4 809	4 987	23	1.0024	4 905	22	1.0134	5 040		
		Traditional	14 876	52	0.9900	14 727	15 270	47	1.0269	15 276	46	1.0501	15 620		
		Total	30 499			30 085	31 045			31 105			31 762		
Subsequent	Euro-PCT-IP	Electricity	31 851	40	0.9694	30 875	26 060	34	1.0044	31 990	32	1.0148	32 321		
		Organic Chemistry	20 372	27	0.9539	19 433	25 066	22	1.0423	21 235	21	1.0586	21 566		
		Inorganic Chemistry	21 412	34	0.9817	21 021	21 532	29	1.0161	21 758	28	1.0335	22 129		
		ICT	23 543	31	0.9942	23 406	23 151	28	1.0021	23 593	28	1.0082	23 937		
		Traditional	44 988	71	0.9835	44 245	53 003	63	1.0182	45 807	61	1.0360	46 607		
		Total	142 167			138 980	148 813			144 382			146 361		
All	Euro-direct	Electricity	10 765			11 012	11 004			11 381			11 566		
		Organic Chemistry	4 263			4 674	4 258			4 815			5 168		
		Inorganic Chemistry	5 892			6 246	6 028			6 532			6 863		
		ICT	7 758			7 322	7 546			7 564			7 688		
		Traditional	20 523			20 255	21 160			21 505			21 946		
		Total	49 201			49 509	49 996			51 198			52 827		
All	Euro-PCT-IP	Electricity	35 061			33 980	28 526			35 332			35 732		
		Organic Chemistry	21 487			20 549	27 439			22 843			22 843		
		Inorganic Chemistry	22 998			22 510	23 570			23 377			23 921		
		ICT	26 672			26 704	25 343			27 034			27 200		
		Traditional	49 181			49 700	59 021			59 495			59 355		
		Total	155 399			152 443	162 900			161 650			161 050		
Grand total	Total	Electricity	45 827			44 992	39 531			46 713			47 298		
		Organic Chemistry	25 750			25 223	31 697			27 273			28 011		
		Inorganic Chemistry	28 889			28 756	29 598			29 909			30 784		
		ICT	34 430			34 026	32 889			34 598			34 887		
		Traditional	69 704			68 955	79 181			77 840			77 897		
		Total	204 600			201 952	212 896			209 834			213 877		
Growth from 2009						-1.3%	4.1%			2.6%			4.5%		
Implied Euro-PCT-IP						75.5%	76.5%			75.6%			75.3%		

Table 16: Forecasts for EPO filings at the EPO – Biggest group broken down by mega clusters

Random group (excluding critical comments)
Breakdown by EPO mega cluster
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year														
Filing type	Filing route	Cluster	2009	2010				2011				2012					
			Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual Filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	
First	Euro-direct	Electricity	3 658	49	1.3243	0.1768	4 845	3 587	49	1.3347	0.1871	4 883	47	1.3775	0.2068	5 039	
		Organic Chemistry	3 566	43	1.0504	0.1337	3 746	3 665	38	0.9770	0.2489	3 484	36	1.2734	0.1711	4 541	
		Inorganic Chemistry	3 046	38	1.2537	0.0774	3 818	3 250	33	1.3120	0.1007	3 996	31	1.3859	0.1054	4 221	
		ICT	2 785	30	1.2441	0.2210	3 465	2 559	28	1.2304	0.2478	3 427	27	1.2512	0.2507	3 475	
		Traditional	5 647	101	1.1244	0.0547	6 350	5 890	93	1.1773	0.0787	6 649	81	1.2908	0.0969	7 230	
		Total	18 702				22 223	18 951				22 438				24 575	
		LCL					19 546					19 079				20 996	
		UCL					24 277					25 240				27 467	
First	Euro-PCT-IP	Electricity	3 210	38	0.9146	0.0769	2 936	2 467	37	1.0898	0.0634	3 494	34	1.0777	0.0608	3 460	
		Organic Chemistry	1 115	31	1.6106	0.2255	1 795	2 373	29	1.7563	0.2154	1 958	27	1.9828	0.2872	2 210	
		Inorganic Chemistry	1 585	26	0.9303	0.0710	1 475	2 038	22	1.0002	0.0727	1 585	23	1.0806	0.0936	1 713	
		ICT	3 129	23	1.0235	0.1084	3 202	2 192	21	1.1375	0.1107	3 559	21	1.1480	0.1130	3 592	
		Traditional	4 193	69	1.1436	0.0817	4 795	5 018	65	1.1950	0.0932	5 011	59	1.2591	0.1094	5 280	
		Total	13 232				14 204	14 087				15 607				16 254	
		LCL					12 795					14 049				14 261	
		UCL					15 540					17 104				18 204	
Subsequent	Euro-direct	Electricity	7 107	84	1.0268	0.0322	7 297	7 417	78	1.0556	0.0447	7 574	73	1.0745	0.0480	7 637	
		Organic Chemistry	697	38	0.8470	0.3451	590	593	36	1.2794	0.1684	892	33	1.2502	0.2234	871	
		Inorganic Chemistry	2 846	54	1.0698	0.0872	3 045	2 778	48	1.0820	0.0965	3 080	46	1.0999	0.0985	3 128	
		ICT	4 973	45	0.8562	0.1315	4 158	4 987	40	1.0062	0.0870	5 004	40	1.0190	0.0981	5 067	
		Traditional	14 876	166	1.0974	0.0361	16 325	15 270	154	1.1829	0.0428	17 595	154	1.2474	0.0521	18 556	
		Total	30 499				31 416	31 045				34 145				35 259	
		LCL					29 629					32 195				32 932	
		UCL					33 143					35 978				37 473	
Subsequent	Euro-PCT-IP	Electricity	31 851	84	0.9488	0.0348	30 222	26 060	87	1.0244	0.0429	32 629	82	1.0629	0.0497	33 855	
		Organic Chemistry	20 372	107	0.9272	0.0429	18 868	25 066	102	1.0834	0.0403	22 072	95	1.1271	0.0446	22 961	
		Inorganic Chemistry	21 412	93	1.0191	0.0367	21 822	21 532	84	1.1104	0.0444	23 777	78	1.1506	0.0505	24 637	
		ICT	23 543	59	0.9249	0.0339	21 774	23 151	55	0.9668	0.0267	22 762	53	0.9798	0.0294	23 067	
		Traditional	44 988	205	1.0247	0.0405	46 099	53 003	189	1.0874	0.0493	48 918	183	1.1040	0.0552	49 689	
		Total	142 167				138 980	148 813				159 159				164 197	
		LCL					133 829					143 934				146 992	
		UCL					143 336					155 745				160 577	
All	Euro-direct	Electricity	10 765				12 142	11 004				12 457				12 676	
		Organic Chemistry	4 263				4 336	4 258				4 376				5 412	
		Inorganic Chemistry	5 892				6 863	6 028				7 076				7 349	
		ICT	7 758				7 623	7 546				8 430				8 552	
		Traditional	20 523				22 676	21 160				24 245				25 865	
		Total	49 201				53 640	49 996				56 583				59 834	
		LCL					50 420					52 699				55 565	
		UCL					56 323					59 834				63 476	
All	Euro-PCT-IP	Electricity	35 061				35 157	28 526				37 124				37 314	
		Organic Chemistry	21 487				20 684	27 439				25 171				24 030	
		Inorganic Chemistry	22 998				23 297	23 570				25 363				26 349	
		ICT	26 672				24 977	25 343				26 321				26 659	
		Traditional	69 151				69 895	59 028				54 920				53 829	
		Total	155 399				153 010	162 900				165 767				170 441	
		LCL					147 837					159 350				162 975	
		UCL					147 733					171 155				177 150	
Grand total	Total	Electricity	45 827				45 299	39 531				48 581				49 990	
		Organic Chemistry	25 750				25 020	31 697				28 406				33 698	
		Inorganic Chemistry	28 889				30 160	30 588				32 438				33 699	
		ICT	34 430				32 600	32 889				34 751				35 211	
		Traditional	69 704				73 570	79 181				78 173				80 793	
		Total	204 600				206 649	212 896				222 349				230 275	
		LCL					200 557					214 675				219 675	
		UCL					212 081					229 336				237 884	
Growth from 2009							1.0%	4.1%				8.7%				12.5%	
	Implied Euro-PCT-IP						74.0%					74.6%				74.6%	
	Deviation in % of forecast						2.9%					3.4%				3.7%	

4.5 Results broken down by mega cluster and residence bloc

The data of the Random group were also analysed with a simultaneous breakdown by mega cluster and residence bloc. See **Table 18**.

The Traditional and Electricity clusters are predicted to see particularly strong growth in the US residence bloc, whereas the ICT cluster is forecast to have more or less constant filings. The Inorganic Chemistry cluster is predicted to be depressed in the US residence bloc. However, as the last interpretation demonstrates, case numbers for this simultaneous breakdown remain low, even after combining the “EP” and “OT” residence blocs. Thus, results from this breakdown should certainly be interpreted with caution, and they are probably more useful for understanding industry trends across blocs than for estimating Total filings.

Random group (excluding critical comments)

Breakdown by mega cluster and residence bloc (“Other” incorporated into EP)

Q-indices

First and Subsequent filings combined

S.E. indicates standard error of logarithm

LCL/UCL indicates lower/upper 95% confidence limit

Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year															
			2009				2010				2011				2012			
Filing type	mega cluster	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings		
All	Electricity	EP/OT	23 424	40	0.9690	0.0361	22 690	22 528	38	1.0437	0.0404	24 447	36	1.0476	0.0275	24 536		
		JA	11 389	23	1.0358	0.0283	11 797	7 583	20	1.1700	0.0670	13 325	20	1.1762	0.0662	13 388		
		US	11 013	8	1.1662	0.3871	12 843	9 420	6	1.9372	0.5982	21 334	6	2.0856	0.6470	22 965		
		Total	45 827	71			47 338	39 531	64			59 106	62			60 904		
		LCL					36 281					26 198				20 832		
All	Organic Chemistry	EP/OT	14 474	33	0.9248	0.0734	13 385	18 379	30	1.0844	0.0980	15 696	27	1.2375	0.0880	100 978		
		JA	2 730	21	1.0263	0.0393	2 802	5 497	19	1.0165	0.0686	2 776	19	1.0145	0.0709	2 776		
		US	8 546	5 *	0.9342	0.0623	7 983	7 821	4 *	1.0702	0.0795	9 145	4 *	1.1809	0.0712	10 091		
		Total	25 750	59			24 170	31 697	53			27 617	50			30 775		
		LCL					21 993					24 238				27 335		
All	Inorganic Chemistry	EP/OT	15 602	26	0.9361	0.1101	14 604	17 133	23	1.0974	0.1029	17 122	23	1.1697	0.0950	18 250		
		JA	6 413	20	1.0587	0.0376	6 789	5 252	18	1.1032	0.0348	7 074	18	1.0693	0.0619	6 855		
		US	8 875	8	0.7310	0.1616	5 026	7 214	6	0.9432	0.0673	6 484	6	0.8591	0.1257	5 909		
		Total	28 889	54			26 420	29 598	47			30 680	47			31 013		
		LCL					22 815					27 064				27 196		
All	ICT	EP/OT	18 458	18	0.9130	0.0476	16 853	18 157	17	0.9865	0.0264	18 208	17	0.9922	0.0284	18 313		
		JA	6 754	19	0.9710	0.0309	6 558	6 571	18	0.9909	0.0293	6 692	17	0.9866	0.0284	6 666		
		US	9 218	5 *	0.9344	0.0348	8 614	8 162	5 *	0.9962	0.0259	9 183	5 *	1.0033	0.0286	9 245		
		Total	34 430	42			32 024	32 889	40			34 083	39			34 228		
		LCL					30 296					32 962				32 991		
All	Traditional	EP/OT	44 427	83	0.9930	0.0557	44 118	47 181	80	1.0686	0.0475	47 474	75	1.1315	0.0479	50 265		
		JA	9 540	44	1.0560	0.0323	10 074	13 518	40	1.0672	0.0392	10 181	38	1.0483	0.0468	10 000		
		US	15 737	14	0.9831	0.1174	15 471	18 482	12	1.2830	0.1160	20 191	12	1.3855	0.1271	21 804		
		Total	69 704	141			69 663	79 181	132			77 845	125			82 077		
		LCL					63 697					71 388				74 765		
Grand total	Total	EP/OT	116 385				111 659	123 377				122 947				129 281		
		JA	36 826				38 021	38 421				40 048				39 687		
		US	51 389				49 936	51 098				56 337				70 015		
		Total	204 600				199 616	212 896				229 332				238 987		
		LCL					186 212					195 414				197 913		
Growth from 2009																280 061		
Deviation in % of forecast																16.8%		
																17.2%		

Table 18: Forecasts for EPO filings at the EPO – Random group broken down by residence bloc and mega cluster

Number of filings

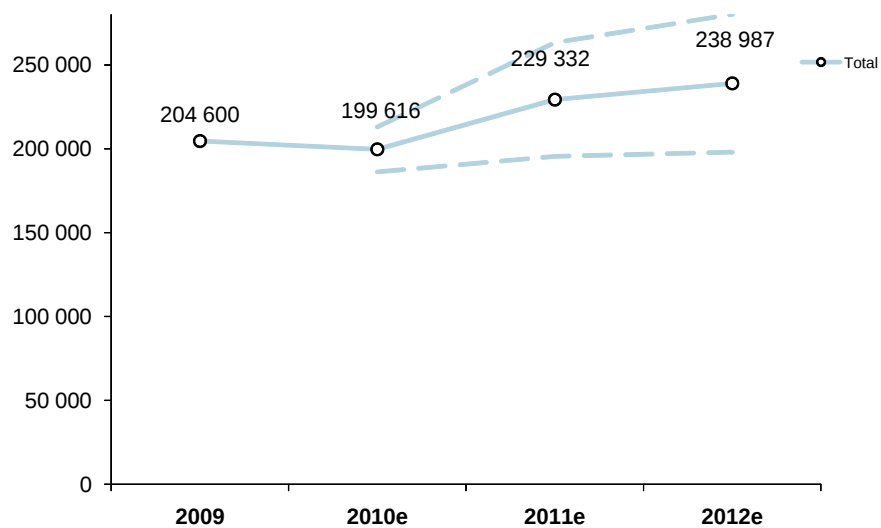


Figure 7: Forecasts for EPO filings based on breakdown by residence blocs and mega clusters for the Random group (dotted lines illustrating 95% confidence limits)

5 Forecasts for PCT regional phase applications

The results for PCT regional phase applications at the EPO were obtained from question (I) in **Part B** of the questionnaire (see **Annex I**). The forecasts for Euro-PCT-RP filings are calculated both for the Biggest group sample and the Random group sample, applying the Composite index and the Q index, respectively. No separate questions on first filings and subsequent filings were asked regarding Euro-PCT-RP applications.

An overview of the main results of the forecasts for Euro-PCT-RP applications according to the different methods is given in terms of growth rates (**Table 19**) and in terms of absolute numbers of filings (**Table 20**). Firstly, Euro-PCT-RP filings are estimated for the Biggest group with no subsidiary breakdown (**Table 21**) and broken down by residence bloc (**Table 22**). Then, a series of tables give forecasts for Euro-PCT-RP filings from the Random group. Q indices for the Random group sample are calculated with no subsidiary breakdown using the reduced Random group dataset excluding cases with a critical code (**Table 23**) and including companies with a critical code (**Table 24**). The same analysis is repeated with the Euro-PCT-RP filings itemised by residence bloc using the reduced dataset (**Table 25**) and again using all available data including those cases with critical codes (**Table 26**). Finally, predictions are shown in **Table 27** that are based on the breakdown by mega cluster of the Random group sample.

Comparing deviations of confidence limits from forecasts, the analysis without residence bloc breakdown consistently produces the narrowest confidence bands and should thus be considered superior. The estimate without subsidiary breakdown shown in **Table 23** thus continues to be the preferred estimate for PCT-RP applications.

For PCT regional phase applications, almost all forecasts for the Biggest group predict lower filing numbers for all three years than in 2009. This is in strong contrast to estimates based on the Random group which project clear two and three-year growth versus 2009.

Comparison of forecasts: Growth from 2009
Euro-PCT-RP

Group	Breakdown	2010		2011		2012	
		Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Biggest	None	-4.9%		-1.1%		-0.5%	
Biggest	Residence bloc	-3.8%		0.0%		-0.5%	
Random	None	-2.6%	3.8%	3.7%	4.1%	4.4%	5.2%
Random	None (including companies with comments)	-2.0%	3.8%	4.5%	4.1%	6.0%	5.1%
Random	Residence bloc	-0.3%	3.9%	9.0%	5.1%	12.9%	6.0%
Random	Residence bloc (including companies with comments)	-0.9%	3.9%	9.1%	4.7%	13.6%	5.5%
Random	EPO mega cluster	-1.7%	3.7%	5.9%	4.3%	6.4%	5.2%

*) **Deviation** corresponds to the distance from the forecasted filings to the lower 95% confidence limit (as % of the forecasted filings)

Table 19: Overview of predicted growth rates for Euro-PCT-RP applications by forecasting method

Comparison of forecasts: Predicted total filings

Euro-PCT-RP

LCL/UCL indicates lower/upper 95% confidence limit

Group	Breakdown	2010			2011			2012		
		Predicted filings	LCL	UCL	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Biggest	None	74 771			77 718			78 225		
Biggest	Residence bloc	75 640			78 222			78 642		
Random	None	76 604	73 698	79 511	81 492	78 147	84 836	82 093	77 856	86 330
Random	None (including companies with comments)	77 044	74 106	79 982	82 136	78 735	85 537	83 366	79 103	87 629
Random	Residence bloc	78 413	75 317	81 509	85 701	81 315	90 087	88 748	83 400	94 096
Random	Residence bloc (including companies with comments)	77 910	74 872	80 947	85 806	81 772	89 840	89 278	84 352	94 203
Random	EPO mega cluster	77 265	74 426	79 879	83 274	79 720	86 595	83 623	79 260	87 653
Actual filings		79 292								

Table 20: Overview of predicted filing numbers for Euro-PCT-RP applications by forecasting method

Biggest group (excluding critical comments)

No subsidiary breakdown

Composite indices

			Year													
			2009		2010				2011				2012			
Patent Office	Filing route	Res. bloc	Actual filings	Cases 10	Index 10	Predicted filings	Actual filings	Cases 11	Index 11	Predicted filings	Cases 12	Index 12	Predicted filings			
EPO	Euro-PCT-RP	Total	78 618	134	0.9511	74 771	79 292	118	0.9885	77 718	114	0.9950	78 22			
Growth from 2009						-4.9%	0.9%			-1.1%			-0.5%			

Table 21: Forecasts for Euro-PCT-RP applications - Biggest group (no subsidiary breakdown)

Biggest group (excluding critical comments)

Breakdown by residence bloc

Composite indices

			Year											
			2009			2010			2011			2012		
Patent office	Filing route	Res. bloc	Actual filings	Cases 10	Index 10	Predicted filings	Actual filings	Cases 11	Index 11	Predicted filings	Cases 12	Index 12	Predicted filings	
EPO	Euro-PCT-RP	EP	34 668	75	0.9495	32 916	35 483	68	0.9839	34 110	65	0.9778	33 89	
		JA	11 442	44	0.9273	10 610	12 072	37	0.9795	11 208	37	1.0212	11 68	
		OT	7 865	0 *	0.9511	7 480	8 149	0 *	0.9885	7 775	0 *	0.9950	7 82	
		US	24 643	15	0.9996	24 634	23 588	13	1.0197	25 129	12	1.0240	25 23	
Total	Total	78 618	134		75 640	79 292	118		78 222	114		78 64		
Growth from 2009					-3.8%	0.9%			-0.5%			0.0%		

Table 22: Forecasts for Euro-PCT-RP applications - Biggest group (broken down by residence blocs)

Random group (excluding critical comments)

No subsidiary breakdown

Q-indices

S.E. indicates standard error of logarithm

LCL/UCL indicates lower/upper 95% confidence limit

Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009		2010			2011			2012					
Patent office	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
EPO	Euro-PCT-RP	Total	78 618	440	0.9744	0.0194	76 604	79 292	395	1.0366	0.0209	81 492	382	1.0442	0.0263	82 093
		LCL					73 698					78 147				77 856
		UCL					79 511					84 836				86 330
							-2.6%	0.9%				3.7%				4.4%
Growth from 2009																
Deviation in % of forecast																

Table 23: Forecasts for Euro-PCT-RP applications - Random group (no subsidiary breakdown)

Random group (including critical comments)

No subsidiary breakdown

Q-indices

S.E. indicates standard error of logarithm

LCL/UCL indicates lower/upper 95% confidence limit

Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year													
			2009		2010			2011			2012					
Patent office	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
EPO	Euro-PCT-RP	Total	78 618	476	0.9800	0.0195	77 044	79 292	432	1.0447	0.0211	82 136	421	1.0604	0.0261	83 366
		LCL					74 106					78 735				79 103
		UCL					79 982					85 537				87 629
Growth from 2009						-2.0%	0.9%				4.5%				6.0%	
Deviation in % of forecast						3.8%					4.1%				5.1%	

Table 24: Forecasts for Euro-PCT-RP applications - Random group including cases with critical comments (no subsidiary breakdown)

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (Predicted filings - LCL)/Predicted filings

Patent Office	Filing route	Res. bloc	Year														
			2009			2010			2011			2012					
			Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings	
EPO-Euro-PCT-RP	EP	JA	34 668	277	0.9766	0.0179	33 858	35 483	253	1.0304	0.0266	35 722	246	1.0318	0.0338	35 771	
	EP	JA	11 442	97	0.9556	0.0446	10 934	12 072	84	1.0143	0.0361	11 605	79	1.0163	0.0430	11 628	
	EP	OT	7 865	15	1.1961	0.1130	9 407	8 149	11	1.5023	0.1507	11 815	13	1.7955	0.1495	14 122	
	EP	US	24 643	51	0.9826	0.0355	24 215	23 588	47	1.0777	0.0304	26 558	44	1.1049	0.0391	27 222	
Total	LCL	US	78 618	440			78 413	79 292	395			85 701	382			88 748	
	LCL	US					75 317					81 315				83 400	
	LCL	US					81 509					90 087				94 096	
Growth from 2009							-0.3%		0.9%			9.0%				12.9%	
Deviation in % of forecast							3.9%					5.1%				6.0%	

Table 25: Forecasts for Euro-PCT-RP applications - Random group (broken down by residence blocs)

Random group (including critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (Predicted filings - LCL)/Predicted filings

			Year													
			2009		2010				2011				2012			
Patent Office	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
EPO	Euro-PCT-RP	EP	34 668	297	0.9899	0.0195	34 318	35 483	275	1.0449	0.0274	36 224	269	1.0563	0.0338	36 621
		JA	11 442	103	0.9556	0.0433	10 934	12 072	90	1.0112	0.0350	11 570	85	1.0160	0.0419	11 625
		OT	7 865	18	1.1269	0.1041	8 863	8 149	13	1.4701	0.1302	11 563	16	1.7693	0.1283	13 916
		US	24 643	58	0.9656	0.0389	23 795	23 588	54	1.0733	0.0329	26 449	51	1.1003	0.0416	27 115
		Total	LCL	78 618	476			77 910	79 292	432				85 806	421	
		LCL					74 872					81 772				84 352
		UCL					80 947					89 840				94 203
Growth from 2009							-0.9%	0.9%				9.1%				13.6%
Deviation in % of forecast							3.9%					4.7%				5.5%

Table 26: Forecasts for Euro-PCT-RP applications - Random group including cases with critical comments (broken down by residence blocs)

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (Predicted filings - LCL)/Predicted filings

			Year													
			2009	2010				2011				2012				
Patent Office	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings
EPO	Euro-PCT-RP	EP	34 668	277	0.9770	0.0157	33 870	35 483	253	1.0404	0.0242	36 069	246	1.0442	0.0308	36 200
		JA	11 442	97	0.9537	0.0410	10 912	12 072	84	1.0185	0.0264	11 653	79	1.0167	0.0337	11 633
		OT	7 865	15	1.1614	0.0986	9 135	8 149	11	1.4350	0.1268	11 286	13	1.7207	0.1301	13 533
		US	24 643	51	1.0014	0.0270	24 677	23 588	47	1.0760	0.0299	26 517	44	1.1093	0.0367	27 337
Total		Total	78 618	440			78 594	79 292	395			85 525	382			88 704
		LCL					76 000						81 813			84 070
		UCL					81 188						89 236			93 337
Growth from 2009						0.0%		0.9%				8.8%				12.8%
Deviation in % of forecast						3.3%						4.3%				5.2%

Table 27: Forecasts for Euro-PCT-RP applications - Random group (broken down by mega clusters)

6 Conclusions and Outlook

The data for this survey were collected in mid-2010. By this time, the global economic recession, which began in late 2008, had passed its peak. Most economies had stabilised with some large countries returning to strong economic growth.

This stabilisation is also apparent throughout much of our survey. Numbers of Total filings for 2010 were anticipated to be more or less stable, including our recommended forecast approach which predicts stable Total filings. For 2011, all forecasting approaches predict a return to solid or even strong growth. And while estimates based on the Biggest group still predict lower filing totals for 2011 than existed in 2008, estimates based on the Random group predict that 2011 numbers will be around the levels of those seen in 2008.

Given the still highly variable economic environment, we continue to recommend not applying the birth/death correction factors provided in Annex VIII, as these are derived from data outside this survey and assume a basically stable environment.

As uncertainty about the speed or even sustainability of economic recovery remains, the annual future filings surveys are a crucial element in updating and validating growth expectations, and in promptly identifying additional shifts in expectations or sentiment.

The EPO uses the forecasts of this survey to allocate its resources and capacities in order to optimise the patent examination process. We would thus like to thank all participants of this year's survey for their valuable time and input. We realise that filling in the questionnaire diligently and in a complete fashion is a time-consuming process. In order to be able to continue with a well-founded resource allocation process at EPO, we would also like to appeal to all applicants that might be approached in the future to kindly respond in full to the questions.

Please read the following Annexes for information on the mechanism and execution of the survey (Annexes I to IV), for results on respondents' profiles (Annex V), and answers to additional questions (Annexes VI to VII). An analysis of other company economic attributes, such as R&D budgets, inventions, inventors, and first filings is given in Annex VI. Applicants were also asked to assess certain issues regarding filing fees (Annex VII). Annex VIII reports on possible correction factors to adjust for the survey's inability to pick up new and dropped out applicants. Annex IX reports on the forecasts from the Random group using the alternative response-based Poisson weights. Finally, Annex X gives details on this year's survey's population and sample sizes.

7 ANNEX I: Methodological approach, data collection procedure, and questionnaire

7.1 Parent population and target persons

The **parent population** of the Future Filings Survey comprises applicants who filed a patent application at the EPO in 2009. These applicants are mainly companies, but there are also some educational organisations and private inventors. The applicants come from all over the world but are mostly residents of Europe, the US, and Japan.

The following table shows the distribution of the applicant population in 2009, broken down by residence bloc (applicants for Euro-direct and Euro-PCT-RP, see also **Annex X**).

Residence bloc	Applicants (population)	
		%
EPC countries	19 312	57.0
Japan	1 977	5.8
USA	7 886	23.3
Other countries	4 715	13.9
Total	33 890	100.0

Table 28: Population size (applicants for Euro-direct and Euro-PCT-RP)

The following table shows the probability distributions of the same applicant population in terms of numbers of filings made per applicant, with separate distributions shown per bloc of origin and overall.

class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.68	0.48	0.75	0.62	0.66
2	2	2	0.14	0.15	0.12	0.16	0.14
3	3	3	0.05	0.08	0.05	0.06	0.06
4	4	5	0.05	0.08	0.03	0.06	0.05
5	6	9	0.03	0.07	0.02	0.04	0.04
6	10	19	0.02	0.06	0.01	0.03	0.02
7	20	39	0.01	0.03	0.01	0.02	0.01
8	40	and higher	0.01	0.05	0.00	0.01	0.01

Table 29: Grouped bloc-wise probabilities of existence of specific filing counts

Details of each selected applicant were provided by the EPO, including the name of the company/person, address and further information from the EPO database, such as number of filings at the EPO in 2009. For the first time in this year's survey, all samples were made on the EPO side in terms of capitalised given names of the applicants, rather than curtailed applicant numbers as assigned at EPO on receipt of applications. This may have led to some concatenation of applicant entities compared to the previous method, and means that the initial random sample apparently covers a larger proportion of the application

population (31% in 2010) than it did in previous surveys (e.g. 28% in 2009), although another reason for the increased coverage was the increased absolute size of the Random group sample.

The **target persons** within companies are the head of the intellectual property department, an in-house or external patent agent, a member of the R&D department, or a member of management.

7.2 Questionnaire

The questionnaire used for data collection is printed below. It is broadly similar to the one used in 2009, and covers the following key topics:

- **Company details**, such as organisation type (**part A**), number of employees, size of total sales (**part C**), founding year and year when an organisation started applying for a patent at the EPO (**part E**).
- **Current and future filings (part B)**, split by
 - First and subsequent filings
 - Different procedures: Euro-direct, PCT international and national/regional phase, and national procedures
 - Different countries: Germany, UK, France, Japan, US, China, and other countries
- **Research and development budget as well as patenting activities (part C)**, split by the 14 joint cluster organisational groupings used for examinations at the EPO; total number of inventions considered for patent applications, percentage of inventions that are patented, and number of staff that were involved in invention.
- **Issues relating to fees (part D)**: perception towards differential fees and national renewal fee as well as important factors that lead the company to drop a patent in a European country after grant.
- **Filings experiences** with various patent offices and degrees of satisfaction with the EPO services (**part E**).
- **General comments** regarding the questionnaire (**part F**). A summary of the comments received is included in **Annex II**.

The main part B of the questionnaire remained unchanged to allow comparisons. Most of the questions in Part C were the same as the ones in the previous year; except questions on average number of first filings for a single invention and the impact of current worldwide recession on the level of R&D budget were replaced by questions on number of staff who were involved in making inventions and total numbers of staff employed.

Part D consisted of new questions on various fee topics. This included ratings of degrees of agreement on how to structure differential fees and national renewal fees, as well as ratings of importance of factors that lead the company to drop a patent in a European country after grant. Some questions in Part E which were asked in the previous year were moved to other sections. Questions on when the company started applying for patents anywhere and when the company started business activities in Europe were replaced. Part E of this year's questionnaire dealt with the experience of companies filing for patents at the EPO and with corresponding satisfaction levels. The results of Section E are not documented in this report and will be considered internally at EPO as a basis for further action later on.

The questionnaire was accompanied by **an official letter of recommendation signed by the President of the EPO**, to motivate respondents to participate. This letter contained information on the background of the study, the target group and data protection, a contact person at the EPO in cases of doubt, and stated that the results would be published on the internet. Differing from 2009, the EPO president's letter stated that guesses would be welcome in case no exact figures could be retrieved (up to 2009, respondents were asked to fill in at least part B of the questionnaire in such cases). In addition, **a cover letter from Synovate** provided information on the survey procedure.

Both letters and the questionnaire were personalised, i.e. the company name, the address, the name of the contact person and an identification number were printed on each questionnaire and reference letter. The letters and questionnaires sent were available in English, French, German, and Japanese (to cover the requirements of the contact persons).

Although the questionnaire was similar to the one used in 2009, it was tested in eleven pre-test interviews (English and German versions). For this purpose, the correct contact persons were researched and approached by telephone. If they agreed to take part in the survey, the draft questionnaire was sent via fax and discussed by phone in a follow-up call. This means that Synovate not only received their answers but had a follow-up talk about the questionnaire as well. The pre-test interviews resulted in some changes in wording. The answers given in the pre-test interviews were included in the analysis. There were also some later returned questionnaires out of the pre-test contacts (without the follow-up talk) which were used as usual returns.

The English version of the questionnaire is displayed below:



ID / GROUP
FA
LEITER PATENTABTL
ABTEILUNG
STRASSE

ORT
LAND

Questionnaire

for Future Patent Filings Survey

Please return to the EPO:
+49-89-2399-1333
filingsurvey@epo.org

We assure you that all the information you provide will be treated as strictly confidential by the EPO as well as by Synovate, and will be used solely for the purposes of neutral, general statistical evaluation.

Please respond only in respect of the company/company part mentioned to you over the phone by Synovate, e.g. your branch or subsidiary. If, however, this is not possible, we would welcome your responses in respect of whatever larger or smaller company part that you can speak for.

For which company/company part will you answer the questionnaire?

- ☐ the company/company part mentioned by Synovate
☐ smaller company/company part, please specify: _____
☐ bigger company/company part, please specify: _____

Please answer the whole questionnaire for the same company/company part.

A. Contact Details

Should the information given above on your company details be incorrect, please provide us with corrected information below:

Contact Name: _____ Position: _____
Phone Number: _____ E-mail-Address: _____
Organisation Name: _____ Organisation Address: _____

Please indicate the nature of the entity for which you will answer the following questions in Sections B to F of this questionnaire. Please cross the box that applies.

- Type: Private enterprise/commercial sector ☐
Public sector:
- Government-performed R&D ☐
- Higher educational sector ☐
- Other public sector ☐
Other, please specify: ☐

A summary of the results of the survey will be published in early 2011 at <http://www.epo.org/patents/surveys/future-patent-filings.html>. We will remind you of this if you could please give us your E-mail address under Section A of this questionnaire.

**B. Estimation of levels of patenting activity throughout the world for your company/
company part**

Please give information on numbers of filings in the two tables below. In case you are unable to give actual figures, please indicate anticipated yearly growth rates as percentages (i.e. 2010 compared with 2009; 2011 compared with 2010; 2012 compared with 2011).

Please indicate the numbers of first filings (priority forming) **and subsequent filings** (claiming priority of an earlier application) with break downs by patent types and countries, that you filed in the last calendar year and that you expect to file in the present and future calendar years.

		Filed		Expected		Expected		Expected	
		2009		2010		2011		2012	
		First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings	First filings ¹	Subsequent filings
European patent applications under the EPC (excluding PCT) ² (a)									
International applications under the PCT (International Phase) (b)									
National applications (excluding PCT and EPC) in	Germany (c)								
	United Kingdom (d)								
	France (e)								
	Japan (f)								
	United States ³ (g)								
	China (h)								
	Other countries (i)								
Worldwide Total First Filings (k)									

¹ A first filing is a patent application that, according to the Paris Convention for the Protection of Industrial Property, confers a right of priority for a period of twelve months for the purpose of filing patent applications in other countries or systems, with respect to the same invention.

² Exclude any multiple counting that is due to the retrospective filing of divisional applications.

³ Include provisional filings at USPTO in the cells for first filings of this row.

Please indicate the numbers of your PCT applications which entered the regional/national phase at the listed offices during the last calendar year and which you expect to enter the regional/national phase in the present and future calendar years.

PCT applications entering the regional/national phase at	Entered 2009	Expected 2010	Expected 2011	Expected 2012
European Patent Office (EPO) (l)				
United States Patent and Trademark Office (USPTO) (m)				
Japan Patent Office (JPO) (n)				
German Patent and Trade Mark Office (DPMA) (o)				
China State Intellectual Property Office (SIPO) (p)				

If you have any comments on this part please put them in Section F on page 5.

C. Activities in total and in various sectors for your company/company part

Can you give us more information on your **business activities**, including **sales, staff, inventions, R&D budget** as well as **first patent filings**? This will help EPO to develop detailed plans that use relationships between various items in the major technological categories of industrial research. Please indicate...

- (a) the approximate size of your total sales throughout the world in 2009 (specify currency):
 (b) the approximate total number of staff employed at your organisation at the end of 2009¹:
 (c) the number of these staff that were directly involved in making inventions that might be patented¹:
 (d) the total number of distinct inventions in 2009 that led your organisation to consider making patent applications:
 (e) the percentage of these distinct inventions in 2009 that are actually leading you to file for one or more patents: %

We are interested in classifying your activities in terms of **technical domains** according to organisational groupings of examination departments at the European Patent Office. Please complete the following table as far as you can, by indicating...

(f) ...which of the following you believe contain(s) the main area(s) of your business. Please tick appropriate box(es).	(g) ...the approximate size of your R&D budget 2009 (specify currency)	(h) ...the number of first patent filings that you actually made in 2009 throughout the world ²
☐ Audio, Video and Media		
☐ Biotechnology		
☐ Civil Engineering; Thermodynamics (including engines and pumps)		
☐ Computers		
☐ Electricity and Semiconductor Technology		
☐ Electronics		
☐ Handling and Processing		
☐ Human Necessities (including agriculture, medical products)		
☐ Industrial Chemistry		
☐ Measuring and Optics		
☐ Polymers		
☐ Pure and Applied Organic Chemistry (including pharmaceuticals)		
☐ Telecommunications		
☐ Vehicles and General Technology (including transporting mechanisms, lighting)		
☐ Other area(s), please specify:		
Total		

If you have any comments on this part please put them in Section F on page 5.

¹ If you are an individual inventor, please write 1.

² The Total for first patent filings provided at the bottom of this column should correspond to the number of worldwide total first filings provided in part B of the questionnaire, line (k).

D. Fee issues

Last year, in the previous version of this survey, many respondents agreed with the principle of differential fees, that are lower for patent applications that are easier to process and higher for applications that are difficult to process. The table below shows some items that could be made subject to differential fees for the applicant, with fee levels linked to the volume of usage for each item on an application.

- (a) To what extent would you agree to the principle of **differential fees that are linked to the demand for each of the following items for a patent application**? Assume that any changes are cost neutral over all users of the EPO system taken together. Please tick the relevant boxes (only one per row) of the scale from 1 to 5.

- (b) Only for each of the items in (a) that you answered with a scale value of 3, 4 or 5:

Should **differential fees** increase **progressively** to dissuade excessive usage for one application?

(a) degree of agreement	Strongly disagree 1	2	3	4	Strongly agree 5	(b) progressive fee
1. number of communications	☐	☐	☐	☐	☐	☐ Yes ☐ No
2. number of amendments	☐	☐	☐	☐	☐	☐ Yes ☐ No
3. requests for extension of time limits	☐	☐	☐	☐	☐	☐ Yes ☐ No
4. request for further processing	☐	☐	☐	☐	☐	☐ Yes ☐ No

Comments: _____

- (c) To what extent do you **agree/disagree** with the following statements? Please tick the relevant boxes (only one per row) of the scale from 1 to 5.

	Strongly disagree 1	2	3	4	Strongly agree 5
1. In terms of administration, it is burdensome to pay the national renewal fee for each European country separately	☐	☐	☐	☐	☐
2. The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries	☐	☐	☐	☐	☐
3. The level of national renewal fees should be linked to the size of a country in Europe	☐	☐	☐	☐	☐

- (d) For item (c) 3 only, if you have answered with scale values 3, 4 or 5:

Please specify **which measure** of country size in Europe should set the level of national renewal fees:

☐ Gross domestic product ☐ Population ☐ Other, please specify: _____

- (e) How important are the following factors to your decision to **drop a patent in a European country after grant**? Please tick the relevant boxes (only one per row) of the scale from 1 to 5.

	Not important at all 1	2	3	4	Very important 5
Level of national renewal fees	☐	☐	☐	☐	☐
Progression of national renewal fees	☐	☐	☐	☐	☐
In-house administrative cost linked to the payment of national renewal fees	☐	☐	☐	☐	☐
Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	☐	☐	☐	☐	☐
Administrative cost for service provider (if involved) linked to the payment of national renewal fees	☐	☐	☐	☐	☐

Comments: _____

E. Details of company/company part and Experience with patents

- (a) In what year was your company/company part **created**?
- (b) In what year did your company / company part **start applying for patents at EPO**?
- (c) Without considering expertise on IP that is brought into your organisation via the services of external attorneys or other external specialists, how would you rate the **level of experience** your organisation has with the procedures in the following patent offices? Please tick the relevant boxes (only one per row).

	very experienced	experienced	not so experienced	not at all experienced
European Patent Office (EPO)	☐	☐	☐	☐
United States Patent and Trademark Office (USPTO)	☐	☐	☐	☐
Japan Patent Office (JPO)	☐	☐	☐	☐
German Patent and Trade Mark Office (DPMA)	☐	☐	☐	☐
China State Intellectual Property Office (SIPO)	☐	☐	☐	☐
Other national Patent Office. Please specify:	☐	☐	☐	☐

- (d) Does your company employ **intellectual property experts** for processing patent applications?
- ☐ Yes, in-house ☐ Yes, external attorneys ☐ Yes, other, please specify
- ☐ No
- (e) To what extent do you feel **satisfied with the services provided to you by the EPO**? In the following table, for each statement please tick the relevant boxes (only one per row) of the scale from 1 to 5. Please give your general opinion and do not base it on the outcome of any particular case.

I feel satisfied with the services provided by the European Patent Office in terms of:

	Very dissatisfied 1	2	3	4	Very satisfied 5
Procedure (in terms of complexity and duration)	☐	☐	☐	☐	☐
Quality of services (search report, examination, communications)	☐	☐	☐	☐	☐
Information on patents (accessibility, completeness)	☐	☐	☐	☐	☐
Cost of procedure (value for money)	☐	☐	☐	☐	☐
Overall performance	☐	☐	☐	☐	☐

F. Comments

Comments on any matter concerning this questionnaire (please continue on a separate sheet if necessary):

Thank you very much for your cooperation.

7.3 Data collection procedure

As in previous years, data collection was done through mailed questionnaires backed up by telephone interviews, and consisted of three steps.

7.3.1 International research of up-to-date telephone numbers

Updated telephone numbers were searched for the 2 586 EPO applicant addresses (Biggest and Random samples and special requests).

The following sources were used to search for telephone numbers:

- Internet search engines
- Special business pages on the internet
- Phone directories of the relevant countries
- Websites of the companies on the internet
- Directory enquiries

As in previous years, it was not possible to find out up-to-date telephone numbers for all applicants in the gross sample. It was difficult to find telephone numbers particularly for private inventors, for companies in Asia, and applicants in the "other countries" category.

7.3.2 Telephone contact interviews

Following the initial step, telephone contact interviews were conducted with applicants whose current telephone numbers had been obtained. The contact interviews consisted of the following steps:

- Identifying the target person within the company or organisation who could answer the questions in the questionnaire
- Introducing the background and the purpose of the survey to the target person and requesting his/her participation
- Recording the name and fax number or, where required, e-mail address of the target person, or recording their reason for declining, where applicable

Due to the complexity of the topics, all participants received the questionnaire in writing to enable them to look up the required figures and provide reasonable estimates. In 219 cases, the questionnaire and the accompanying letters were sent by fax. However, the majority of applicants preferred to receive the documents via email (1 474). Eighteen applicants received the documents via fax and email.¹⁸

The main contacting phase, i.e. sending the personalised questionnaires and accompanying letters to the participants, started on May 10, 2010.

¹⁸ The total number of 1 716 applicants who received the questionnaire one way or the other is smaller than the adjusted sample total of 1 855 reported in Table 30 below, due to refusals to participate after initial telephone contact.

7.3.3 Main interviews

The target respondents were offered several modes of returning a complete questionnaire: fax, e-mail, telephone, and post. Principally, the respondents were asked to send their questionnaire to the EPO. If this did not suit their need for data protection, they were asked to return the questionnaire directly to Synovate. Alternatively, the respondents were able to opt for a telephone interview.

Most of the questionnaires were completed by the target respondents themselves and sent back to the EPO by e-mail or fax. Compared to the previous year, e-mail responses increased significantly (316 in 2009 vs. 496 in 2010). A few responses (50) were collected directly through a follow-up telephone call. Proactive fieldwork was finished by September 14, 2010. However, to increase the number of responses, all completed questionnaires received by October 1, 2010 were included in the analysis. After that date, no more questionnaires were received.

Return Type	To the EPO					To Synovate				
	Total	EPC	US	JA	OT	Total	EPC	US	JA	OT
by E-mail	388	258	47	68	15	108	77	25	-	6
by Fax	257	145	14	94	4	1	-	-	1	-
by Phone	-	-	-	-	-	50	48	2	-	-
Total	645	403	61	162	19	159	125	27	1	6

Table 30: The distribution of responses received by the EPO and by Synovate

In total, 804 interviews were realised in 2010. The number of responses is higher than the responses of the previous years (702 interviews in 2009, 772 interviews in 2008, 747 in 2007, and 772 in 2006). Of the 804 participants in 2010, 82 also took part in the 2009 survey (according to a comparison of names).

The following table shows the total number of applicants who were selected for the survey, the number of applicants who dropped out for various reasons, the final numbers of responses received for the total net number of applicants and the split into Biggest and Random groups.

	Total¹⁹		Biggest		Random	
	n	%	n	%	n	%
Total gross sample	2 586	100.0	419	100.0	2 530	100.0
Addresses not found	286	11.1	5	1.2	286	11.3
Addresses found	2 300	88.9	414	98.8	2 244	88.7
Dropouts (1)	445	19.3	82	19.8	435	19.4
Adjusted sample	1 855	80.7	332	80.2	1 809	80.6
Dropouts (2)	1 051	45.7	153	37.0	1 029	45.9
Total responses/ response rate*	804	35.0	179	43.2	780	34.8

- (1) Number of losses: company was identical with/included in another one already identified in the sample; an appropriate contact was not found or could not be reached; contact was sick/on vacation; company no longer exists or is being restructured, etc.
- (2) Number of refusals: questionnaire not returned though promised; no time available for dealing with the matter; no interest in filling in the questionnaire; not able to collect requested data; company policy; data too confidential, etc.
- *) Calculation: total responses over addresses found

Table 31: Overview of sample and responses received

During the main interview phase, the respondents were contacted several times through follow-up telephone calls in order to realise both a high response rate and a high response quality. The follow-up calls aimed to

- arrange appointments with target persons who were difficult to reach
- remind respondents about the questionnaire
- clarify questions and help respondents complete the questionnaire
- collect the responses by telephone, where appropriate

All contact interviews and, where applicable, main interviews were conducted centrally by telephone from the Synovate call centre in Munich. This facilitated efficient and reliable survey coordination.

All interviewers involved were either native speakers of the required languages, or spoke those languages fluently. Most of them already had prior experience with patent-related topics or other EPO surveys. All 16 interviewers received a detailed briefing about the study and the contents of the questionnaire in order to prepare them for any questions from the target persons. Delegates from the EPO attended the initial briefing of the interviewers.

7.4 Experiences during fieldwork

During the fieldwork, complex company structures were considered in order to avoid data overlaps. Multiple contacts with one and the same department through different company subsidiaries were avoided as far as possible, e.g. by carefully checking the gross sample for companies with identical or similar names.

¹⁹ Including 10 addresses requested by EPO joint cluster managers.

The fieldwork in 2010 started almost a month earlier than the start dates in the previous years. This early start enabled the fieldwork staff to initiate contacts/conduct follow-up calls with the respondents prior to the summer break.

As in previous years, the contact phase was particularly difficult in the US. The response rate for both the Biggest group and the Random group in the US was lower than in 2009. This was due to the increasing difficulty in identifying target persons within the companies, i.e. the extended use of mailbox systems or the policy not to put any phone call through unless a correct name of a contact person could be provided. The loss due to mailbox system became more significant in 2010 compared to the previous year.

However, in 2010 the situation that interviewers only got through if they had the name of the contact person was not only encountered in the US, but has also become a more common occurrence in European countries. In addition, as has occurred in the past survey year, many applicants who had participated in previous years now wanted a "break" for the current year. For some small enterprises, the applicants found the questionnaire too difficult to fill in and more complicated than expected. Due to lack of a questionnaire version in local languages, some respondents in Spain, Italy, and Asian countries had difficulties completing the English questionnaire.

7.5 Questionnaire checks

Each questionnaire returned was checked in detail and corrected according to rules agreed with the EPO. If necessary, verbal information provided by the respondents on the questionnaire was converted into figures. All relevant modifications were recorded on a separate change and comment list.

A set of rules was developed together with the researchers to ensure that the answers given to the questions were correctly transcribed and interpreted in the electronic database. In cases where percentage growth rates were given instead of real figures, a method was defined for converting these into equivalent filing figures on which the analyses could be based. Rules were given concerning the interpretation of zero to ensure correct interpretation where zero is given either as a figure or as an indicator of no change compared to the base year.

Technical areas noted verbally in the "Others" line of Part C were allocated to one of the 14 joint clusters ex post, where possible.

7.6 Plausibility rules

To ensure that the answers given in the questionnaire were logical and consistent, some plausibility rules were set up. In detail, the rules covered the following topics:

General rules:

- The worldwide total of first filings (line k of section B) was compared with the sum of the first filings reported for Euro-direct/European patent applications under the EPC (excluding PCT) (line a), international applications under the PCT (international phase) (line b), and national applications (lines c, d, e, f, g, h, and i) as well as with

the total number of first filings given in part C/question h. If missing or implausible, the worldwide total of first filings was calculated according to the figures provided or deleted. The calculated sum can be interpreted as estimation for the worldwide total of first filings.

- For non-EPC-respondents (US, JA, CN, etc.), the number of first filings at the EPO (Euro-direct/European patent applications under the EPC, line a) should not be much higher than the number of first filings at the respective home office in the same year. In addition, a non-EPC-respondent should not have more first filings at the EPO than subsequent filings at the EPO one year later.

Specific rules resulting in a removal from the analysis for check purposes:

Some plausibility checks resulted in “critical codes” in the electronic database that identify an answer scenario as being dubious. If the following rules were not fulfilled, the answer scenario was set as being dubious:

- The numbers in any cell under subsequent filings should be comparable (say, not more than three times as high) to the number under worldwide total first filings (line k) for the previous year.
- The numbers for PCT national/regional phase applications in any cell for 2011 and 2012 (lines l, m, n, o, or p) should be comparable to (say, not more than three times as high as) the combined figures under PCT international phase first filings and subsequent filings (line b) in 2009 and 2010, respectively.
- Any scenario that gave the impression of being dubious due to other reasons.

The definition of rules that trigger such “critical codes” has been substantially changed since the 2009 survey. In the 2010 survey, 46 cases (6%) were marked with a “critical” code and thus excluded from those analyses which were restricted to those cases without any critical codes. By comparison, 292 cases (45%) were marked with a “critical” code in the 2009 survey.

Specific rules resulting in an analysis as combined filings only:

In addition, it was checked if there was any evidence that first and subsequent filings had not been distinguished by the respondents. Such cases were analysed as combined filings only. This refers to the following rules:

- If a respondent indicated first filings, there should be subsequent filings in the same year and/or respective following year. If there are only figures provided for the first filings column, this probably indicates that the respondent did not distinguish first and subsequent filings but put them together.
- If a respondent indicated subsequent filings at the home office (national office of applicant residence) only, but no subsequent filings in other countries/procedures. This also may indicate that first and subsequent home office filings were put together.
- If there was a specific comment by the respondent that first and subsequent filings could not be distinguished (no case in 2010).

Such suspected combined answers could not be properly allocated or partitioned between first and subsequent filings, and unfortunately could not be used for the detailed analyses as they are calculated for this report. Therefore, they were marked with a comment code in the data set and were included only at a higher level of aggregation with first and subsequent filings combined.

Table 32 shows the distribution of such cases total (Biggest and Random groups put together) and broken down by residence bloc. This problem is slightly more relevant for US applicants than for applicants from the other blocs.

	Total	EP	US	JA	OT
Total number of interviews	804	528	88	163	25
Cases without subsequent filings entered, but first filings	86 11%	53 10%	13 15%	18 11%	2 8%
Cases with subsequent filings in home office only	14 2%	0 0%	8 9%	5 3%	1 4%

Table 32: Distribution of cases that can be analysed at higher level of aggregation only

Plausibility check on future filing totals:

This year, an additional semiautomatic plausibility check was carried out with respect to respondents' answers regarding future filing totals. For any given filing category, if an applicant had at least ten filings in any given year and if the ratio of maximum filings to minimum filings in that category was 4 or more, then this applicant was flagged for further inspection and a manual review of the returned questionnaire was performed.

7.7 Respondents' reactions to the questionnaire

The questionnaire required a high level of commitment from the respondents. Some respondents found the questionnaire very complicated and difficult to understand. Sometimes it was impossible to gather the information requested, or data collection was perceived as being very time-consuming. As in previous years, all this resulted in a significant time lag between initial contact and response. In addition, a substantial number of follow-up calls were required to remind and encourage respondents to complete the questionnaire, and to assist respondents with explanations about the questions. If respondents indicated that it was difficult to give precise quantitative answers to the questions asked, then they were asked to give educated guesses where no exact data were available.

In general, the respondents had the following difficulties when responding to the questionnaire:

- Difficulty providing the information due to unavailability of the data
 - o Some organisations do not record the requested data
 - o Data are only available for a larger part of the company than that requested

- o Data are not recorded in the required structure
- o Change in data recording system or application procedure
- Difficulty providing the information due to data confidentiality
- Confusion about the terminology used in the questionnaire
- Difficulty answering the questions as they are not relevant to their organisation

7.8 Non-response analysis and response rates

7.8.1 Address qualification

The EPO provided lists containing a total²⁰ of 2 586 selected applicants. The researchers strove to identify contact names, addresses and telephone numbers, and 2 300 addresses were confirmed. For the Biggest group, it was possible to obtain 414 telephone numbers for 419 addresses (99%) through the international research procedure. In the Random group (including target group overlap), the percentage of telephone numbers found was lower than that for the Biggest group and was also lower than the percentage in the previous year (89% in 2010 vs. 95% in 2009).

7.8.2 Losses

In 2010, 7% of the addresses found for the Biggest group were identical with, or included in, another company. A further 13% had to be classified as non-systematic losses. Cases were classified as losses if either a company or contact person was not available or a company could not take part due to economic or organisational changes. In the Random group, 5% of the addresses found were identical to, or included in, another applicant in the sample. This rate improved by 13 percentage points compared to 2009 as a result of the EPO's attempt to eliminate identical addresses in the gross sample. Another 14% were non-systematic losses, i.e. general drop-outs not due to a refusal of the contact person (reasons like no availability, no appropriate contact found/mailbox system, technical problems or language problems, company no longer exists, etc.).

In the Biggest group, a direct contact person was identified for 79% of the 419 gross addresses (= "adjusted sample B", 2009: 86%, 2008 and 2007: 84% each). This figure was lower in the Random group (72% of 2 530 gross addresses), which is about the same as for the previous year (70%).

In absolute numbers, the useable number in the Random sample (adjusted sample B) is higher than that of 2009 (1 809 addresses for the Random group in 2010 compared to 1 427 addresses in 2009). This, however, does not apply to the US and the group of Other countries, where the number of useable Random sample is about the same as it was in 2009 (US: 326 in 2010 compared to 335 in 2009). For the US, a reason for this may be that the contacting phase turned out to be extremely difficult here, due to the use of mailbox systems or the policy not to put any phone call through if the calling person cannot provide a correct name of a contact person. In 2010, more addresses (162) got "lost" in this way during this contacting phase than in 2009 (85).

²⁰ Including 10 addresses requested by EPO joint cluster managers.

7.8.3 Response rates

In terms of addresses found, **Table 31** shows that the overall response rate is 35.0%, 43.2% in the Biggest group, and 34.8% in the Random group.

In the following more detailed **Tables 33 and 34**, response rates are given in terms of percentages against adjusted sample B (equivalent to "adjusted sample" in Table 31) ("Response rate 1") and the number of addresses found (Response rate 2). The latter includes duplicates (according to names/addresses) and non-systematic losses and is, therefore, lower than response rate 1.

Referring to adjusted sample B, the overall response rate was 54% in the Biggest group and 43% in the Random group. Compared to the previous year, there was a marginal decrease in both groups (2009: 58% response rate in the Biggest group, and 45% in the Random group).

The response rates in all regions of the survey also dropped in both groups:

The response rate for EPC countries declined in the Biggest group to 54% (59% in 2009) and in the Random group to 46% (2009: 50%). Among EPC applicants, high response rates were achieved in Italy (75% Biggest), Turkey (75% Random), Finland (71% Random), and Sweden (63% Biggest).

In the US, the response rate dropped to 35% in the Biggest group (2009: 39%), and 26% in the Random group (2009: 30%).

In Japan, the response rates decreased in both groups; 70% in the Biggest group (2009: 79%) and 61% in the Random group (2009: 63%).

However, it should be stressed that at the same time the absolute number of interviews increased for the Random group, at least for EPC countries and Japan, due to a larger number of gross addresses and a longer field period than in 2009. The drop in the response rate is possibly because of the fact that the same absolute amount of interviewer hours had to be spread among a larger number of addresses and a longer field period.

As in previous years, the response rate was higher in the Biggest group than in the Random group in 2010.

The third column from the right in both **Table 33** (Biggest group) and **Table 34** (Random group) shows the numbers of responses achieved with blocs and countries of origin. **Table 35** shows in addition the numbers of responses by origin from the combined samples. Reasons for non-response are explained in **Table 36** (combined sample).

Block, Biggest	Country	Addresses in gross sample ¹	Addresses not found	Addresses found	Included in/Identical with other applicant ^{D1}	Adjusted sample A	Number of losses	Adjusted sample B ^{D1}	Number of refusals ^{D2}	Number of interviews	Response rate 1*	Response rate 2**
EPC	AT	1	0	1	0	1	0	1	0	1	100%	100%
EPC	BE	6	0	6	1	5	0	5	2	3	60%	50%
EPC	CH	20	0	20	0	20	2	18	8	10	56%	50%
EPC	DE	78	0	78	5	73	0	73	29	44	60%	56%
EPC	DK	4	0	4	0	4	0	4	3	1	25%	25%
EPC	ES	1	0	1	0	1	0	1	0	1	100%	100%
EPC	FI	3	0	3	1	2	0	2	0	2	100%	67%
EPC	FR	33	0	33	2	31	0	31	18	13	42%	39%
EPC	GB	7	0	7	0	7	0	7	3	4	57%	57%
EPC	IT	4	0	4	0	4	0	4	1	3	75%	75%
EPC	LI	2	0	2	0	2	0	2	0	2	100%	100%
EPC	LU	2	0	2	0	2	0	2	2	0	0%	0%
EPC	LV	1	0	1	0	1	0	1	0	1	100%	100%
EPC	NL	15	1	14	1	13	1	12	10	2	17%	14%
EPC	NO	1	0	1	0	1	0	1	0	1	100%	100%
EPC	SE	9	1	8	0	8	0	8	3	5	63%	63%
EPC	SI	1	0	1	0	1	0	1	1	0	0%	0%
EPC	TR	1	0	1	0	1	0	1	0	1	100%	100%
EPC	Total	189	2	187	10	177	3	174	80	94	54%	50%
JA	JA	95	0	95	5	90	0	90	27	63	70%	66%
US	US	114	0	114	10	104	41	63	41	22	35%	19%
OT	Total	21	3	18	2	16	11	5	5	0	0%	0%
OT	BB	1	0	1	1	0	0	0	0	0	0%	0%
OT	CA	2	1	1	0	1	1	0	0	0	0%	0%
OT	CN	2	0	2	0	2	2	0	0	0	0%	0%
OT	IL	1	0	1	0	1	0	1	1	0	0%	0%
OT	KR	9	0	9	0	9	7	2	2	0	0%	0%
OT	SG	2	0	2	1	1	1	0	0	0	0%	0%
OT	TW	3	1	2	0	2	0	2	2	0	0%	0%
OT	VG	1	1	0	0	0	0	0	0	0	0%	0%
Total	Total	419	5	414	27	387	55	332	153	179	54%	43%

1) Without addresses requested by EPO joint cluster managers

D1) Both columns sum up to Dropouts (1) in **Table 31**

D2) This column refers to Dropouts (2) in **Table 31**

*) Calculation: number of interviews over adjusted sample B

**) Calculation: number of interviews over addresses found

Table 33: Non-response statistics – Biggest (incl. overlapping members of the Random group)

Block, Random	Country	Addresses in gross sample ¹	Addresses not found	Addresses found	Included in/Identical with other applicant ^{D1}	Adjusted sample A	Number of losses ^{D1}	Adjusted sample B	Number of refusals ^{D2}	Number of interviews	Response rate 1*	Response rate 2**
EPC	AT	35	2	33	1	32	6	26	13	13	50%	39%
EPC	BE	35	5	30	3	27	2	25	12	13	52%	43%
EPC	CH	104	5	99	6	93	7	86	39	47	55%	47%
EPC	CZ	9	2	7	0	7	3	4	3	1	25%	14%
EPC	DE	467	17	450	19	431	19	412	214	198	48%	44%
EPC	DK	30	4	26	0	26	2	24	10	14	58%	54%
EPC	ES	41	14	27	0	27	6	21	15	6	29%	22%
EPC	FI	28	7	21	2	19	2	17	5	12	71%	57%
EPC	FR	159	3	156	11	145	13	132	84	48	36%	31%
EPC	GB	133	22	111	4	107	2	105	61	44	42%	40%
EPC	IE	18	4	14	3	11	0	11	5	6	55%	43%
EPC	IS	2	0	2	0	2	0	2	1	1	50%	50%
EPC	IT	126	4	122	2	120	7	113	81	32	28%	26%
EPC	LI	5	0	5	0	5	0	5	0	5	100%	100%
EPC	LT	1	0	1	0	1	0	1	0	1	100%	100%
EPC	LV	1	0	1	0	1	0	1	0	1	100%	100%
EPC	NL	77	13	64	2	62	6	56	23	33	59%	52%
EPC	NO	14	4	10	0	10	3	7	3	4	57%	40%
EPC	PT	5	0	5	0	5	0	5	2	3	60%	60%
EPC	SE	50	9	41	0	41	2	39	17	22	56%	54%
EPC	SI	3	0	3	0	3	1	2	1	1	50%	33%
EPC	TR	9	0	9	1	8	0	8	2	6	75%	67%
EPC	Others	24	11	13	0	13	4	9	9	0	0%	0%
EPC	Total	1376	126	1250	54	1196	85	1111	600	511	46%	41%
JA	JA	280	3	277	12	265	3	262	103	159	61%	57%
US	US	617	79	538	50	488	162	326	241	85	26%	16%
OT	Total	257	78	179	5	174	64	110	85	25	23%	14%
OT	AU	24	3	21	0	21	5	16	13	3	19%	14%
OT	CA	40	7	33	2	31	12	19	13	6	32%	18%
OT	CN	30	13	17	1	16	9	7	5	2	29%	12%
OT	IL	31	6	25	0	25	2	23	13	10	43%	40%
OT	IN	9	0	9	0	9	2	7	4	3	43%	33%
OT	KR	51	14	37	0	37	19	18	17	1	6%	3%
OT	Others	72	35	37	2	35	15	20	20	0	0%	0%
Total	Total	2530	286	2244	121	2123	314	1809	1029	780	43%	35%

1) Without addresses requested by EPO joint cluster managers

D1) Both columns sum up to Dropouts (1) in **Table 31**

D2) This column refers to Dropouts (2) in **Table 31**

*) Calculation: number of interviews over adjusted sample B

**) Calculation: number of interviews over addresses found

Table 34: Non-response statistics – Random (incl. overlapping members of the Biggest group)

Block	Country	Biggest (incl. Target group overlap) ¹	Random (incl. Target group overlap) ¹	Biggest & Random/net number of interviews ²
EPC	AT	1	13	13
EPC	BE	3	13	13
EPC	CH	10	47	48
EPC	CZ	0	1	1
EPC	DE	44	198	206
EPC	DK	1	14	15
EPC	ES	1	6	6
EPC	FI	2	12	12
EPC	FR	13	48	49
EPC	GB	4	44	44
EPC	IE	0	6	6
EPC	IS	0	1	1
EPC	IT	3	32	33
EPC	LI	2	5	5
EPC	LT	0	1	1
EPC	LV	1	1	1
EPC	NL	2	33	35
EPC	NO	1	4	4
EPC	PT	0	3	3
EPC	SE	5	22	25
EPC	SI	0	1	1
EPC	TR	1	6	6
EPC	Subtotal	94	511	528
JA	JA	63	159	163
US	US	22	85	88
OT	Subtotal	0	25	25
OT	AU	0	3	3
OT	CA	0	6	6
OT	CN	0	2	2
OT	IL	0	10	10
OT	IN	0	3	3
OT	KR	0	1	1
Total	Total	179	780	804

1) Without addresses requested by EPO joint cluster managers

2) Including addresses requested by EPO joint cluster managers

Table 35: Respondent structure

Losses ¹			Systematic losses/refusals ¹		
Company is never available	59	18%	Didn't return questionnaire	520	50%
Appropriate contact not found/ mailbox system	98	31%	No time	125	12%
Technical problems (fax, e-mail address not working)	3	1%	Not interested	63	6%
Language problems	10	3%	Company policy	60	6%
Company no longer exists	8	3%	Not able to identify/collect data	27	3%
Contact is sick/on vacation	4	1%	Data too confidential	41	4%
Company is being restructured	13	4%	No reason given	65	6%
Company will be liquidated	2	1%	Questionnaire too complicated	17	2%
Contact never available	122	38%	Participated in other EPO survey	7	1%
			Returned questionnaire too late	0	0%
			Other reasons (please specify in comment)*	93	9%
			No name policy**	16	2%
			Data security	2	0%
			Questionnaire too long	13	1%
Total	319	100%	Total	1049	100%

1) Without addresses requested by EPO joint cluster managers

* = Too expensive due to external attorney/Didn't want to give contact data of externals

** = Mailbox systems/No name policy/Blocking operators

Table 36: Reasons for non-response – Biggest and Random groups

7.8.4 Item non-response

Apart from the overall response rates, the different sections of the questionnaire were filled in with varying completeness, i.e. there are different response rates for different parts of the questionnaire. The completion rates of the questionnaire were 98% for part B (99% in 2009), 95% for part C (89% in 2009), 84% for part D, and 89% for Part E (although these gratifyingly high percentages hide cases where not all questions were answered for a part). These completion rates of questionnaire parts (compared to total completed interviews) improved from the previous year. Follow-up calls supported the response rate for the parts of the questionnaire.

In total (Biggest and Random groups), out of 804 complete interviews, 775 responses (671 in 2009) could contribute to the forecasting analyses based on Section B (EPC and PCT International Phase – B(a) and B(b)) and 698 responses (595 in 2009) could be used for EPO PCT regional phase applications (B(l)).

690 respondents (547 in 2009) provided information on the technical area they are active in. However, 220 of these respondents noted their technical area(s) in the "others" line. 200 responses were allocated to one of the 14 joint clusters by Synovate ex post, where possible. 314 responses (239 in 2009) could contribute to the analysis of R&D budgets (C(g)).

In the Biggest Group (including overlap), out of 179 complete interviews, 171 cases could be used for the forecasting analyses based on Section B (EPC and PCT International Phase – B(a) and B(b) – equivalent response rate 2 over addresses found: 41% vs. 50% in 2009), and 158 responses provided useful information on EPO PCT regional phase applications (B(l) – equivalent response rate 2: 38% vs. 46% in 2009). For Section C, 173 respondents (180 in 2009) answered at least one question (equivalent response rate 2: 42%), and 63 responses could contribute to the analysis of R&D budgets (C(g) – equivalent response rate 2: 15%). 154 respondents provided useful answers to Section D questions (equivalent response rate 2: 37%), while 163 respondents provided information on Section E (equivalent response rate 2: 39%).

In the Random Group (including overlap), out of 780 complete interviews, 753 responses could contribute to the forecasting analyses based on Section B (EPC and PCT International Phase – B(a) and B(b) – equivalent response rate 2: 34% vs. 36% in 2009), and 676 responses supplied useful information on EPO PCT regional phase applications (B(l) – equivalent response rate 2: 30%). For Section C, 740 respondents (576 in 2009) answered at least one question (equivalent response rate 2: 33%). 670 respondents provided their technical domain (C(f) – equivalent response rate 2: 30%) and 304 responses could be used for the analysis of R&D budgets (C(g) – equivalent response rate 2: 14%). 656 respondents answered Section D questions (equivalent response rate 2: 29%), while 691 respondents provided information on Section E (equivalent response rate 2: 31%).

In short, compared to the completion rate (response rate 2 over addresses found) by each questionnaire part in 2009, the item response rates among the Biggest group respondents declined slightly, while the rates in the Random groups remained on the same level as in the previous 2009 survey.

8 Annex II: Comments received from participants

8.1 Multiple Comments

The table below lists a selection of comments which were received multiple times. Numbers refer to the number of times a specific comment was received. Sometimes the same respondent made identical comments in several parts of the questionnaire.

Questionnaire part:	B	C	D	E	F	Total
	Absolute frequency of comments					
No answer/no data available	5	50	5	20		80
Difficult to provide figures/hard to estimate/estimation only	10	1		1	1	13
Unclear question/terminology/incomprehensible question	4	1	5		2	12
Confidentiality		10			1	11
Time-consuming/takes a lot of effort					7	7
Hard to answer (not collecting data in requested structure/change in organisation/external attorney handles patent filing)					7	7
Hesitation to answer		1				1
Question not relevant to this entity/organisation					1	1
Negative comments on languages available, translation					1	1
Total	19	63	10	21	20	133

8.2 Individual Comments (selection)

8.2.1 Individual comments on patenting strategy and development

- At the moment, we are becoming less interested in filing EPO applications - and more interested in filing Chinese applications. For cost reasons and because Europe is becoming less important for multinational patent applicants, we will be steadily changing our strategy from filing at the EPO towards filing just one European national application, such as a UK application. If the EPO wishes to stop this trend, they need to be proactive. For example, if the renewal fees for 20+ EP countries were limited to three times the cost of a typical UK or French renewal, or perhaps twice the cost of a DE renewal, then we would revert back to filing EPO applications.
- We always file the first filing in CZ, and then go through the PCT phase.
- The single uniform designation fee (regardless of the number of countries) has caused us to plan for direct national filing rather than using EPO.

- We have recently filed foreign applications either through the direct EP or direct PCT filing routes. To the present time, we have no national entry considering the above given EP or PCT applications.
- It is our policy to file PCT applications only. During the 30 months, we try to find a commercial partner who will bear the further costs of the applications. Only in very specific cases, will we decide to file for the national phase.

8.2.2 Individual comments on differential fees²¹

- Creating new fee types which relate to activities that can encourage examiners to do more office actions than necessary for creating income to the office would further lower the productivity of EPO in terms of examination time.
- Fees should be equal for all applications and should not depend on the progress and speed of the prosecution.
- Due to the different fee system, the cost at EPO is supposed to be lower than before. Therefore, the handling fee for us should be cheaper than before. Otherwise, we cannot see any improvement/ advantage for our application.
- Differential fees are also a good idea for the EPO itself, e.g. a long response time by the EPO should lead to reduced annuity fees.
- Basically, we don't agree with the differential fees because the purpose of this new system is not clear yet. As there is a certain limit for revising "search report" according to the EPC improvement, we don't think that there is more work for examiners. It means: it's not necessary to raise the fee because we agree with it only if there is more work for examination.
- This "fee" issue is very important and a problem for us. On the contrary, the fees should be reduced when it is difficult to process and takes a long time.
- Sometimes the examiner just doesn't seem to understand a process, and the examination process can take a while to go through - as you have to go back and explain things they haven't understood. As a small company, increased fees in such a situation would be very off-putting.
- We suppose as technologies are getting highly developed and complicated, the patent examination term will be longer. Therefore, we don't want to expect an increase in the commission/fee with number of times of the notifications or amendments.
- This would significantly adversely affect small companies. The scale should instead be linked to sales and staff numbers.
- In our experience, patent applications are usually more "difficult to process" when the examiner (not the applicant) has difficulty understanding the invention, and hence differential and progressive fee systems make no sense at all. Making the patent applicant bear the burden of the EPO's inability to efficiently process a

²¹ The EPO would like to state that the questions on Fee issues in Part D of the questionnaire were designed to elicit applicants' opinions on possible changes that might be considered at some point in the future, which does not necessarily indicate that any such changes are under consideration at the present time.

patent application, shifts the burden onto the applicant for a problem which is not the applicant's to solve. Doing so will allure applicants from using the EPC system towards more fair & balanced systems such as the constituent national systems within the EU.

- Additional communications and/or amendments should not incur further fees. The costs are still significant in terms of staff time and consultancy costs. Also, additional communications and amendments are not all due to the applicant. However, the incurrence of additional fees for utilising extensions and further processing is recommended.
- Where the Office has any influence on the number of communications/need for amendments, it would be inequitable to expect the applicant alone to foot the bill: otherwise, it will encourage and entrench poor examination behaviour.
- It is one thing to agree that I would pay additional fees to assure/guarantee I get to make more amendments or receive more communications (this is my choice as an applicant). It is quite different for the EPO and an examiner to decide what cases get more actions, amendments, and therefore have higher fees.

8.2.3 Individual comments on decision factors to drop a patent in a European country after grant

- Because we have a large portfolio, we outsource payment of these fees. In the past, we have been ripped off on payment of renewal fees to the tune of 20%. Some countries (was it New Zealand) allow you to pay by credit card or direct debit I'm not exactly sure. But this sounds great - it would avoid 'middleman' fees and avoid accidentally lapsing patents. This must be a total nightmare for those with a medium-sized portfolio who pay their own fees. I would like the option of giving you a standing order or direct debit instruction and having the relevant fees deducted. Some patent owners would want confirmation in advance. Others would want to be asked whether they want to pay. We are a large firm so we would want the funds to be deducted automatically, and we would want to be notified at the beginning of the year what fees are to be anticipated in the coming year, and what fees were deducted in the previous year. This would make European Patent applications greatly more attractive to firms that manage their own portfolios, and to sole inventors (partly because it avoids 'middleman' fees and avoids hassle and uncertainty).
- The main factor in a decision to drop a patent is the commercial value of the patented product and the likely cost.
- The costs for an external attorney are higher than for the patent office. It would be easier for applicants to accept the current/new cost system if the cost system were the same in every country.
- We place more emphasis on total cost and these kinds of fees/this commission are/is not so important.
- The fees are too high for early-stage companies without revenues. This discriminates in favour of large companies and stifles the development of new products.

- The European is in comparison to the USA far more expensive (when one adds up all individual fees per country), therefore the costs associated with filing in all countries should be significantly reduced. The only way to achieve this is to centralise and make it a truly European patent (no national phases in all member states). The last thing we would like to see happen is that the fees for the larger EU countries go up! [...] One EU patent in English would be very nice to have.
- The overriding factor is always strategic and based upon the competitive landscape and/or supply chain in each country.
- The level of fees is only one factor in any decision to drop a patent. We would also consider the commercial value of the patent, and invention, which in many cases can only be assessed accurately several years after the invention is devised and an application filed. Progression of fees encourages the abandonment/dropping of patents as they get older.

8.2.4 Individual comments on EPC system/EPO quality

- It's not the level in a country. It's the total costs forcing you to select among EP countries!
- Letters from UKIPO are much clearer and more pleasant to deal with than those from the EPO. The name and telephone number of the writer are easier to find; they sign letters; and they are easier to reach by telephone (more often at their desks). It is also good to have our case reference on each letter.
- Regarding the new regulation which requires responses within a month after we receive "international survey report" or "international pre-examination report". For us as a Japanese company, it takes longer to deal with documents as we have to translate and have to contact the representative office/attorney. So please consider to extend the period to answer these reasons (make difference to EU countries).
- We find that the information service of Register Plus or automatic Debiting System is very useful compared to other patent offices in other countries. We are using XML Data of the EPO website in order to manage our data since we have approximately 4,000 cases. Therefore, it would be very helpful if you could improve the following points regarding the Automatic Debiting System.
 1. To give "Transaction Numbers" on each filing. Currently "voucher number" is not used for each filing but each case so that we have to process the data manually. Therefore, if there was an individual number on each filing (transaction), it would enable us fully-automatic data processing and we could easily respond to requests from the EPO about management to enable us to have contact with the person who is responsible for "automatic Debiting System". We currently contact the User support when we have problems. It would be better if we could talk directly to someone who can answer about automatic Debiting System (i.e. user support cannot)
 2. Examination Speed. The examination at the EPO looks slow compared to the other countries. Please improve the examination speed.
 3. Procedures. After the revision of the law (regulations) in April 2010, the procedure has become more complicated in a short time, for example, about the limited separation or correction time of Euro-PCT.

- It would be great and save a lot of costs if the filing in English language could be accepted for every country at the EPO. Since we have to pay for the translation for France, Germany and Italy into those languages, the costs for the EPO is high. If English was accepted, we could use the document for the USA.
- Why don't we have one patent system in Europe instead of many national patent systems? It would make it easier and less complicated. An average handling time at 72 months is far too long and it is difficult and costly to keep competitors out because of that. If the handling time were shorter, we would apply for more patents.
- Regarding patent information of ESP at Europe, the search function has been improved a lot and is very useful compared to the other countries. We expect even more improvement on the view after the search. For example, to obtain a drawing, we need to click each section. But it would be great if we could see drawings on the list view.
- EPC2000 helped us to reduce filing fees and we appreciate it. It would be great if there were more countries who can work with the English, German or French language. We request the EPO to change the payment system which currently incurs much cost burden as we have to pay the attorneys for each country with regard to an annual payment. Therefore, we would like to pay all the cost in one lump sum only to the EPO.

9 Annex III: Analytical Methodology

9.1 Amalgamation of joint clusters into mega clusters

At the EPO, operations with respect to patent filings are organised according to 14 industry segments, also called *joint clusters*. In the questionnaire Part C, respondents are invited to give some information broken down according to these classes. Joint cluster specific filing estimates help the EPO anticipate industry-specific trends and dynamics. For purposes of aggregating enough sample responses to give better forecasts by technical areas, these 14 joint clusters have been amalgamated into five larger groups in this report. These *mega clusters* each define a hopefully fairly homogenous group of industries. Through this amalgamation, each of the 14 joint clusters is assigned to exactly one of the mega clusters. The assignment is given in **Table 37**.

In this year's report, growth and filing estimates as well as the additional analyses of **Annex V** to **Annex VII** are provided using mega cluster breakdowns.

Mega Cluster	Joint Cluster
Electricity	Electricity and Semiconductor Technology
	Electronics
	Measuring and Optics
ICT	Audio, Video & Media
	Computers
	Telecommunications
Inorganic Chemistry	Industrial Chemistry
	Polymers
Organic Chemistry	Biotechnology
	Pure & Applied Organic Chemistry
Traditional	Civil Engineering & Thermodynamics
	Handling & Processing
	Human Necessities
	Vehicles & General Technology

Table 37: Amalgamation of joint clusters into mega clusters

9.2 Finite population correction

Finite population correction values were obtained from the EPO database counts of Euro-direct and Euro-PCT-RP filings of respondents in the Random group as follows:

Residence bloc	fpc
Total	0.24
EP	0.26
JA	0.53
OT	0.01
US	0.10

Finite population correction factor values shown here were used in the current analysis. In fact, these fpc values are conservative because they are based on database counts for filings by respondents, while the reported counts for base year filings by the respondents can be somewhat higher (see **Annex X**, where numbers of applicants responding are smaller than numbers of applicants asked, although numbers of applications are, in fact, higher for applicants responding than for applicants asked in the case of PCT-IP filings). This year's fpc values are generally higher than last year's, as the total fpc value of 0.24 versus 0.14 last year indicates. This is a clear sign that the increased sample size, as well as the new sampling scheme attempting to combine all filings of a company, have successfully covered a larger proportion of filings when compared to last year. FPC values were calculated based on total filings including divisional filings, since this was the population of filings on which the sampling mechanism was based.

9.3 Nonparametric bootstrapping

Nonparametric bootstrapping was carried out to validate the stability of the forecast results in terms of the analytically calculated standard errors of the growth indices²². Again this year, the bootstrap results confirm the validity of the analytic formulae that are routinely used throughout the report. Due to limited further insights, the bootstrapping analysis results are not included in this report.

²² Cf. Applicant Panel Survey 2006 report: Section 7.5.

10 Annex IV: Forecasts for applications at other patent offices (national applications and PCT national phase applications)

Intentions regarding future patent filings at national offices were obtained from questions (c) to (i) and (m) to (p) in **Part B** of the questionnaire (**Annex I**).

National applications by country based on the Random group are presented in **Table 38** and **Table 39**. Forecasts based on the Random group for PCT national phase applications at USPTO, JPO, SIPO and DPMA (German Patent Office) are displayed in **Table 40** to **Table 43**. The tables are limited to calculating growth indices as up-to-date filing numbers are not generally available for the base year from all the offices concerned.

This year, filing intentions of companies who applied at the EPO in 2009 at other national offices vary strongly from country to country. While China, first and foremost, but also Germany and the United States are expected to see first filings growth in 2010, first filings in the UK, France and Japan are expected to decline. Over the three-year horizon of this survey, China is anticipated to experience 74% first filings growth, with “Other” countries growing at 25%, while the UK is forecast to experience a 19% decline in national first filings. Subsequent national filings in the UK, however, are expected to grow strongly.

Random group (excluding critical comments)
No breakdown
Q Indices

Filings type	Filing route	Nation	Res. bloc	Year								
				2010			2011			2012		
				Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
First	National	Germany (c)	Total	145	1.0452	0.0370	135	1.0228	0.0497	130	1.0249	0.0514
		United Kingdom (d)	Total	51	0.6711	0.2001	47	0.7914	0.1879	45	0.8080	0.1985
		France (e)	Total	34	0.9049	0.0550	31	0.9871	0.0694	27	0.9917	0.0754
		Japan (f)	Total	122	0.9219	0.0923	108	0.9930	0.0665	101	1.0024	0.0710
		United States (g)	Total	179	1.0323	0.0442	163	1.0495	0.0364	154	1.0781	0.0375
		China (h)	Total	34	1.1798	0.2927	29	1.5673	0.2805	29	1.7416	0.2635
		Other Countries (i)	Total	84	1.0249	0.1096	76	1.1917	0.0713	74	1.2528	0.0923
		Worldwide total (k)	Total	509	0.9979	0.0141	469	1.0607	0.0148	444	1.0904	0.0162
Subsequent	National	Germany (c)	Total	80	1.0086	0.0591	70	1.0698	0.0794	69	1.1092	0.0734
		United Kingdom (d)	Total	40	1.3817	0.2067	36	1.6489	0.2433	34	1.7419	0.2490
		France (e)	Total	35	1.0684	0.1403	29	1.2570	0.1500	29	1.2761	0.1521
		Japan (f)	Total	136	0.7985	0.0936	120	0.9056	0.0586	115	0.9212	0.0613
		United States (g)	Total	235	0.9721	0.0373	215	1.0871	0.0276	206	1.1184	0.0293
		China (h)	Total	168	0.9830	0.0582	152	1.1596	0.0552	146	1.2439	0.0509
		Other Countries (i)	Total	177	0.8840	0.0658	156	1.0203	0.0495	150	1.0538	0.0496

Table 38: Detailed forecasting results for national applications (excluding PCT), no breakdown – Random group

Random group (excluding critical comments)
Q Indices, Breakdown by residence bloc

Filings type	Filing route	Nation	Res. bloc	Year								
				2010			2011			2012		
				Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
First	National	Germany (c)	EP	133	1.0577	0.0415	126	1.0673	0.0400	122	1.0696	0.0416
			JA	3	1.0452 *	0.0370 *	2	1.0228 *	0.0497 *	2	1.0249 *	0.0514 *
			OT	1	1.0452 *	0.0370 *	1	1.0228 *	0.0497 *	0	1.0249 *	0.0514 *
			US	8	0.9709	0.0259	6	0.6332	0.1775	6	0.6397	0.1862
		United Kingdom (d)	EP	38	0.5888	0.2196	36	0.7094	0.1960	34	0.7210	0.2111
			JA	1	0.6711 *	0.2001 *	1	0.7914 *	0.1879 *	1	0.8080 *	0.1985 *
			OT	0	0.6711 *	0.2001 *	0	0.7914 *	0.1879 *	0	0.8080 *	0.1985 *
			US	12	1.0076	0.0774	10	1.1708	0.0918	10	1.2041	0.0776
		France (e)	EP	31	0.8837	0.0546	28	0.9396	0.0564 *	24	0.9374	0.0596
			JA	0	0.9049 *	0.0550 *	0	0.9871 *	0.0694 *	0	0.9917 *	0.0754 *
			OT	0	0.9049 *	0.0550 *	0	0.9871 *	0.0694 *	0	0.9917 *	0.0754 *
			US	3	0.9049 *	0.0550 *	3	0.9871 *	0.0694 *	3	0.9917 *	0.0754 *
		Japan (f)	EP	9	0.7491	0.2560	7	0.8592	0.1797	5	1.0024 *	0.0710 *
			JA	105	1.0481	0.0181	95	1.0623	0.0201	91	1.0735	0.0243
			OT	1	0.9219 *	0.0923 *	1	0.9930 *	0.0665 *	1	1.0024 *	0.0710 *
			US	7	0.5053	0.4764	5	0.9930 *	0.0665 *	4	1.0024 *	0.0710 *
		United States (g)	EP	97	1.0227	0.0444	91	1.0558	0.0452	85	1.0864	0.0449
			JA	34	1.0809	0.1433	30	0.9886	0.1026	30	0.9967	0.1050
			OT	8	1.6590	0.2580	7	1.3745	0.1996	6	1.6591	0.2337
			US	40	0.9542	0.0474	35	1.0842	0.0394	33	1.1320	0.0387
		China (h)	EP	9	1.1705	0.5246	9	1.6667	0.4199	9	1.8851	0.3899
			JA	12	1.2989	0.1159	10	1.3427	0.2172	10	1.3868	0.2235
			OT	2	1.0323 *	0.0442 *	1	1.0495 *	0.0364 *	1	1.0781 *	0.0375 *
			US	11	0.9688	0.0904	9	1.5466	0.1445	9	1.7553	0.1847
		Other Countries (i)	EP	59	0.9193	0.1255	52	1.1206	0.0861	50	1.1906	0.1170
			JA	12	1.2387	0.1047	11	1.2775	0.1064	11	1.2735	0.1064
			OT	6	0.9262	0.1757	6	1.1807	0.1232	6	1.3129	0.1588
			US	7	1.9191	0.1732	7	1.6633	0.1283	7	1.6774	0.1275
		Worldwide total (k)	EP	337	0.9829	0.0200	314	1.0574	0.0205	297	1.0848	0.0222
			JA	109	1.0377	0.0172	99	1.0502	0.0203	95	1.0709	0.0237
			OT	15	1.1939	0.1560	14	1.3067	0.1345	12	1.5489	0.1666
			US	48	0.9683	0.0392	42	1.0730	0.0338	40	1.1211	0.0317
Subsequent	National	Germany (c)	EP	47	1.0399	0.1132	40	1.1314	0.1442	39	1.2008	0.1325
			JA	23	0.9653	0.0516	20	0.9626	0.0734	20	0.9661	0.0745
			OT	1	1.0323 *	0.0442 *	1	1.0495 *	0.0364 *	1	1.0781 *	0.0375 *
			US	9	0.9722	0.0678	9	1.0338	0.0874	9	1.0522	0.0727
		United Kingdom (d)	EP	26	1.6743	0.2978	20	2.1353	0.3218	19	2.2942	0.3287
			JA	7	0.9441	0.2440	8	0.8415	0.2752	7	0.8376	0.2802
			OT	1	1.0323 *	0.0442 *	1	1.0495 *	0.0364 *	1	1.0781 *	0.0375 *
			US	6	1.2250	0.0495	7	1.4984	0.0607	7	1.5841	0.0682
		France (e)	EP	25	1.1312	0.1401	18	1.4890	0.0704	18	1.5236	0.0830
			JA	7	0.8901	0.2590	7	0.9025	0.2664	7	0.9127	0.2715
			OT	1	1.0323 *	0.0442 *	1	1.0495 *	0.0364 *	1	1.0781 *	0.0375 *
			US	2	1.0323 *	0.0442 *	3	1.0495 *	0.0364 *	3	1.0781 *	0.0375 *
		Japan (f)	EP	72	0.6708	0.1284	62	0.8381	0.0817	59	0.8512	0.0851
			JA	53	1.0396	0.0313	47	1.0040	0.0311	45	1.0152	0.0298
			OT	0	1.0323 *	0.0442 *	2	1.0495 *	0.0364 *	2	1.0781 *	0.0375 *
			US	11	1.0158	0.1088	9	1.2368	0.1154	9	1.3629	0.1719
		United States (g)	EP	140	0.9686	0.0574	128	1.1018	0.0368	124	1.1412	0.0386
			JA	65	1.0029	0.0451	58	1.0738	0.0526	55	1.0910	0.0562
			OT	3	1.0323 *	0.0442 *	5	1.0495 *	0.0364 *	4	1.0781 *	0.0375 *
			US	27	0.9008	0.0702	24	1.0317	0.0527	23	1.0665	0.0687
		China (h)	EP	87	0.9165	0.0920	81	1.1108	0.0772	78	1.2161	0.0695
			JA	64	1.1002	0.0524	56	1.2644	0.0643	53	1.3271	0.0743
			OT	3	1.0323 *	0.0442 *	3	1.0495 *	0.0364 *	3	1.0781 *	0.0375 *
			US	14	0.8452	0.1921	12	0.9506	0.2285	12	0.9481	0.2311
		Other Countries (i)	EP	90	0.8200	0.0918	77	1.0016	0.0469	75	1.0337	0.0506
			JA	60	0.9833	0.0955	53	1.1371	0.0979	51	1.0943	0.1131
			OT	6	0.8660	0.1805	7	0.8732	0.2606	7	0.9071	0.2840
			US	21	0.8905	0.1758	19	0.8643	0.1626	17	1.0735	0.1082

Table 39: Detailed forecasting results for national applications (excluding PCT), broken down by residence bloc – Random group

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2010			2011			2012		
Patent Office	Filing route	Res. bloc	Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
USPTO	PCT National	EP	232	1.0137	0.0289	212	1.1043	0.0309	209	1.1307	0.0372
		JA	94	0.9693	0.0800	82	1.0315	0.0719	77	1.0462	0.0765
		OT	13	1.0909	0.1132	9	1.3369	0.1835	11	1.6468	0.1926
		US	42	1.0475	0.0547	37	1.0800	0.0532	33	1.1312	0.0651
USPTO	PCT National	Total	381	1.0053	0.0290	340	1.0858	0.0275	330	1.1148	0.0319

Table 40: Detailed forecasting results for PCT applications entering the national phase at USPTO (United States) – Random group

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2010			2011			2012		
Patent Office	Filing route	Res. bloc	Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
JPO	PCT National	EP	173	0.9218	0.0387	156	0.9959	0.0434	155	0.9938	0.0513
		JA	78	1.1603	0.1411	70	1.0998	0.0459	66	1.1033	0.0490
		OT	5	1.3183	0.2490	5	1.5180	0.2817	5	1.8017	0.3385
		US	32	0.9072	0.0434	30	0.9561	0.0419	29	0.9619	0.0570
JPO	PCT National	Total	288	0.9859	0.0499	261	1.0203	0.0315	255	1.0224	0.0370

Table 41: Detailed forecasting results for PCT applications entering the national phase at JPO (Japan) – Random group

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2010			2011			2012		
Patent Office	Filing route	Res. bloc	Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
SIPO	PCT National	EP	177	1.0173	0.0434	162	1.1687	0.0408	163	1.2180	0.0525
		JA	90	1.0159	0.0768	78	1.1364	0.0562	74	1.1663	0.0633
		OT	8	1.2761	0.1730	6	1.7550	0.1691	6	2.1690	0.1749
		US	40	0.9958	0.0517	37	1.0949	0.0468	34	1.1515	0.0613
SIPO	PCT National	Total	315	1.0170	0.0349	283	1.1566	0.0302	277	1.2042	0.0383

Table 42: Detailed forecasting results for PCT applications entering the national phase at SIPO (China) – Random group

Random group (excluding critical comments)
Breakdown by residence bloc
Q-indices

			Year								
			2010			2011			2012		
Patent Office	Filing route	Res. bloc	Cases 10	Q-index 10	S.E. 10	Cases 11	Q-index 11	S.E. 11	Cases 12	Q-index 12	S.E. 12
DPMA	PCT National	EP	63	1.3509	0.2899	56	1.3162	0.1099	53	1.3393	0.1108
		JA	25	1.1949	0.1010	24	1.2027	0.1031	24	1.2065	0.1039
		OT	3	1.7542	0.2435	2	3.6340	0.0643	2	4.0390	0.1430
		US	15	0.9407	0.2244	16	1.0018	0.2499	15	1.0216	0.2742
DPMA	PCT National	Total	106	1.2682	0.1949	98	1.2567	0.0853	94	1.2747	0.0869

Table 43: Detailed forecasting results for PCT applications entering the national phase at DPMA (Germany) – Random group

11 Annex V: Respondents' profiles

In **Sections C** and **E** of the questionnaire, respondents were asked to indicate the profile of the company, including company/organisation type, the number of persons employed, the joint clusters that best describe the applicant's business, and the year of foundation of the company.

11.1 All respondents

These findings represent the totality of responses to the survey. It is considered most appropriate for the main forecasting exercise of this report to analyse and report results separately for the Biggest and Random groups, and not to provide combined results for all respondents.

11.2 Respondents from the Biggest group

Figure 8 shows that the majority of companies in the Biggest group were founded in the first half of the twentieth century. While 35% of Biggest group applicants were active at the EPO more or less from the start of its operations (essentially in 1978), only 13% began patenting activities at the EPO after 2000.²³

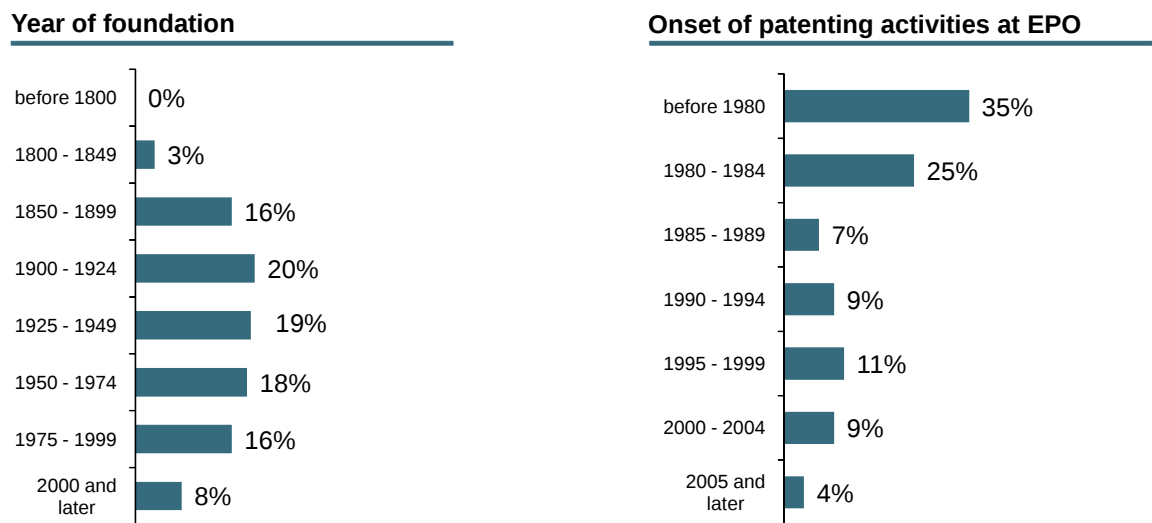


Figure 8: Biggest group by year of foundation and year of onset of patenting activities at the EPO

Broken down by residence bloc, distributions are as shown in the following three tables:

²³ A few responses indicating activity before the start of operations of the EPO were removed before analysing the data for the Biggest group and the Random group.

Biggest group
By year of foundation
Total and breakdown by residence bloc

Residence bloc	before 1800	1800 - 1849	1850 - 1899	1900 - 1924	1925 - 1949	1950 - 1974	1975 - 1999	2000 and later	Grand total	No. of cases
Total	0%	3%	16%	20%	19%	18%	16%	8%	100%	157
EP	0%	6%	19%	16%	10%	18%	20%	11%	100%	83
JA	0%	0%	5%	28%	33%	22%	7%	5%	100%	60
OT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
US	0%	0%	43%	7%	14%	7%	29%	0%	100%	14

Table 44: Biggest group by year of foundation and residence bloc

Biggest group
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Grand total	No. of cases
Total	0%	0%	1%	1%	3%	17%	18%	38%	21%	100%	145
EP	0%	0%	3%	3%	6%	13%	15%	36%	25%	100%	80
JA	0%	0%	0%	0%	0%	26%	23%	40%	11%	100%	53
OT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
US	0%	0%	0%	0%	0%	8%	17%	42%	33%	100%	12

Table 45: Biggest group by number of employees and residence bloc

With respect to the type of organisation, as in previous years, the overwhelming majority of Biggest group applicants (93.6% this year) are private enterprises.

11.3 Respondents from the Random group

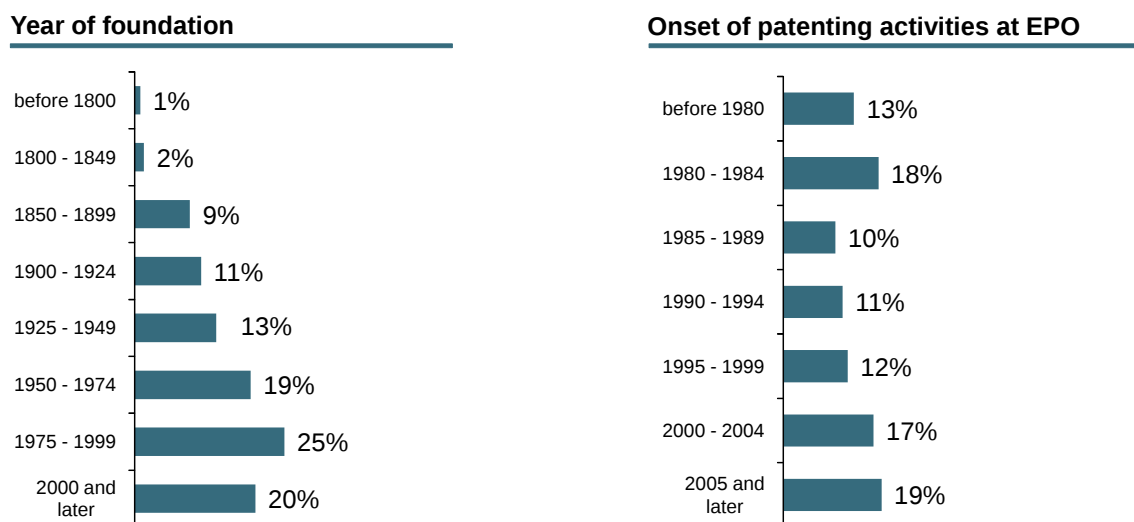


Figure 9: Random group by year of foundation and year of onset of patenting activities at the EPO

Figure 9 shows that, in the Random group, 45% of companies were founded after 1974 and only 13% were active at the EPO from the onset (before 1980), while 36% initiated activities at the EPO after 2000.

Broken down by residence bloc, distributions are as shown in the following three tables:

Random group
By year of foundation
Total and breakdown by residence bloc

Residence bloc	before 1800	1800 - 1849	1850 - 1899	1900 - 1924	1925 - 1949	1950 - 1974	1975 - 1999	2000 and later	Grand total	No. of cases
Total	1%	2%	9%	11%	13%	19%	25%	20%	100%	646
EP	1%	2%	10%	10%	9%	18%	27%	22%	100%	410
JA	0%	1%	7%	19%	29%	28%	9%	8%	100%	149
OT	0%	0%	0%	0%	8%	17%	29%	46%	100%	24
US	0%	0%	13%	5%	10%	6%	44%	22%	100%	63

Table 46: Random group broken down by year of foundation and residence bloc

Random group
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Grand total	No. of cases
Total	0%	8%	11%	11%	16%	25%	10%	14%	5%	100%	634
EP	1%	10%	11%	13%	19%	22%	8%	11%	5%	100%	411
JA	0%	0%	1%	6%	14%	38%	16%	21%	4%	100%	141
OT	0%	9%	35%	17%	9%	17%	9%	4%	0%	100%	23
US	0%	10%	22%	7%	7%	17%	7%	20%	10%	100%	59

Table 47: Random group broken down by persons employed and residence bloc

With respect to the type of organisation, as in previous years, the overwhelming majority of Random group applicants (91.3% this year) are private enterprises, while the second biggest group are educational institutions (3.9% this year) followed by Government R&D (2.6% this year).

11.4 Estimated composition of the population of EPO applicants

Although the Random group is primarily designed to be a random sample drawn from the pool of applications, it can also be used to analyse the properties and composition of the population of EPO applicants if a proper weighting scheme is used.

The weighting approach to estimate applicant population characteristics is based on the extended structural weight approach described in the *Applicant Panel Survey 2007 report*²⁴. These weights are based on the denominator of the Poisson weight and then an adjustment to match the sample to the population by bloc and size classes. This year, in contrast to previous years, the adjustment is achieved solely by using the sample response rate by size class per bloc of residence (SRSS). The additional PopProb factor used in previous years was dropped in order to avoid a perceived over-adjustment²⁵ (for PopProb see Table 29).

Table 48 shows bloc-wise SRSS values based on filing count class. Filing count classes are defined by a range of filing counts from lower bound ("lb") to upper bound ("ub"), but class midpoints are used in the analysis. This year, as in the previous two years, bloc-specific SRSS values were used since there are pronounced differences in sample response rates between blocs.

²⁴ Cf. Applicant Panel Survey 2007 report, Annex VII, p. 110.

²⁵ Thus for each applicant the extended structural weight (SW) is calculated as follows:

$$SW = \frac{1}{1 - e^{-n^+ \cdot A_j / A}} \cdot \frac{1}{SRSS_{A_j, bl}},$$

where A_j is the number of filings of applicant j in the base year, n^+ is the number of extractions, A is the total number of filings in the base year, and $SRSS_{A_j, bl}$ is the sample response rate by size class (determined by applicant j 's A_j filings) in resident bloc bl .

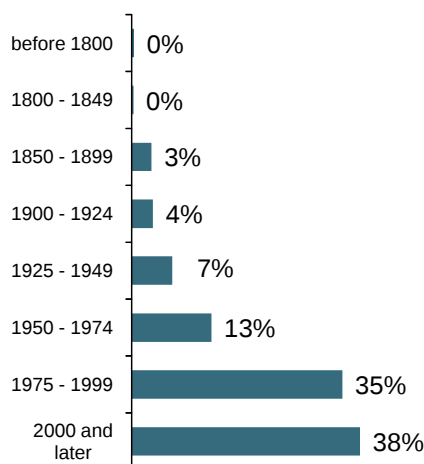
class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.2709	0.3704	0.0924	0.0963	0.21270718
2	2	2	0.341	0.4286	0.0625	0.1084	0.25566343
3	3	3	0.3837	0.375	0.1905	0.0851	0.27647059
4	4	5	0.4286	0.4375	0.1818	0.0833	0.32195122
5	6	9	0.3676	0.6129	0	0.1692	0.32520325
6	10	19	0.3916	0.5556	0.1667	0.2099	0.35191638
7	20	39	0.5	0.561	0.0833	0.137	0.38582677
8	40	9999999	0.5166	0.7229	0	0.1977	0.45588235

Table 48: Bloc-wise SRSS values of the Random sample by filing count class

The results in **Table 48** are consistent with **Table 34**, which also shows that the highest response rates are found from applicants residing in Japan and the EPC.

Extended structural weights are applied for estimating distributions for the whole applicant population by year of foundation and the number of employees, giving the following results:

Year of foundation



Onset of patenting activities at EPO

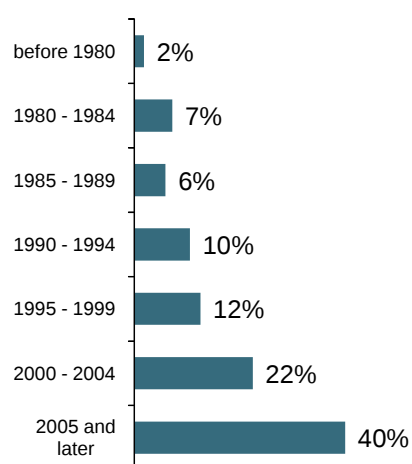
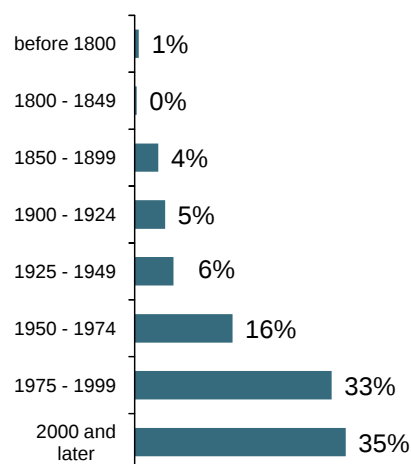


Figure 10: Estimated distribution of the EPO future filings survey population by year of foundation and year of onset of patenting activities at the EPO

The inference for the whole applicant population is that 73% of applicant companies were founded after 1974. Only 2% of applicants were active at the EPO before 1980, and a majority - 62% - initiated patenting activities at the EPO after 2000. Both distributions in **Figure 10** show a strong contrast to the data for the Biggest group in **Figure 8**.

Separated by residence bloc, the estimated composition of the applicant distributions can be summarised as follows:

Year of foundation



Onset of patenting activities at EPO

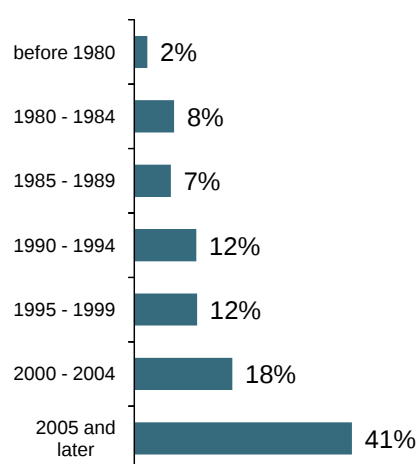
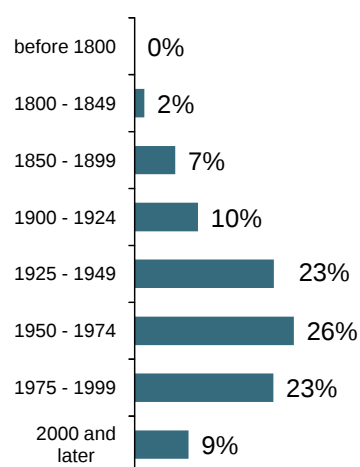


Figure 11: Estimated distribution of the EPO future filings survey population in the EPC (EP) residence bloc by year of foundation and year of onset of patenting activities at the EPO

Year of foundation



Onset of patenting activities at EPO

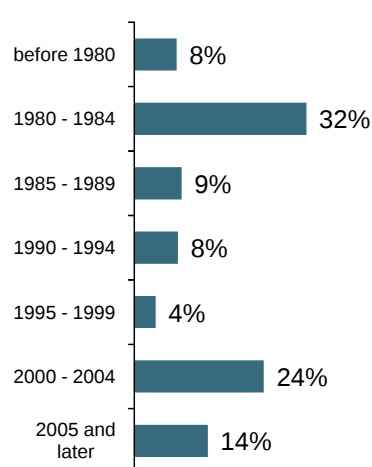
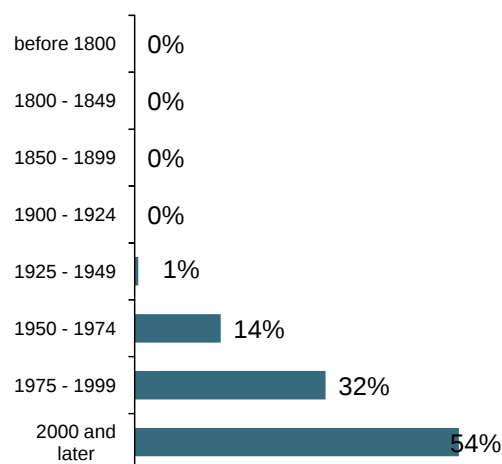


Figure 12: Estimated distribution of the EPO future filings survey population in the Japan (JA) residence bloc by year of foundation and year of onset of patenting activities at the EPO

Year of foundation



Onset of patenting activities at EPO

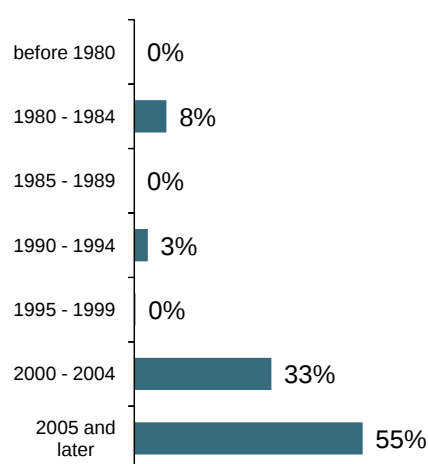
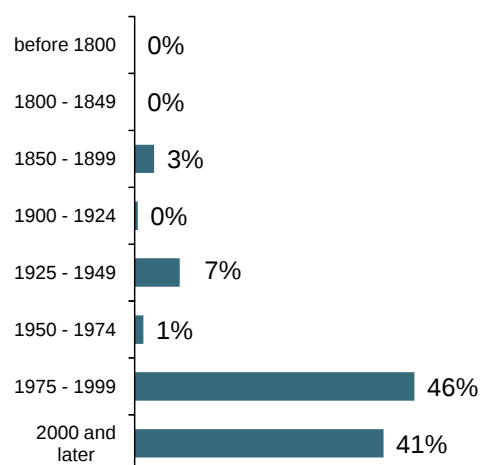


Figure 13: Estimated distribution of the EPO future filings survey population in the Others (OT) residence bloc by year of foundation and year of onset of patenting activities at the EPO

Year of foundation



Onset of patenting activities at EPO

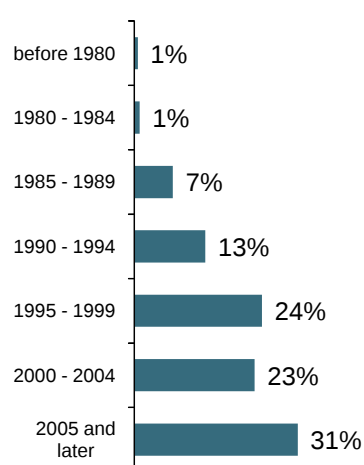


Figure 14: Estimated distribution of the EPO future filings survey population in the US residence bloc by year of foundation and year of onset of patenting activities at the EPO

Notable differences can be inferred between the typical histories of applicants from the various blocs. Many Japanese applicants at the EPO were founded before their European counterparts and applicants from the US, and even more so the OT, tend to be youngest. The difference in maturity is mirrored in the onset of patenting activities at the EPO: 51% of Japanese applicants at the EPO began filing before 1990 whereas, for all other blocs, more than 50% of current applicants began filing at the EPO after 1999.

Estimation incorporating structural weights
By year of foundation
Total and breakdown by residence bloc

Residence bloc	before 1800	1800 - 1849	1850 - 1899	1900 - 1924	1925 - 1949	1950 - 1974	1975 - 1999	2000 and later	Total
Total	0.4%	0.3%	3.3%	3.5%	6.7%	13.2%	34.8%	37.8%	100%
EP	0.7%	0.4%	3.9%	5.0%	6.4%	16.2%	32.6%	34.9%	100%
JA	0.0%	1.6%	6.7%	10.5%	23.0%	26.3%	22.9%	8.9%	100%
OT	0.0%	0.0%	0.0%	0.0%	0.6%	14.2%	31.6%	53.6%	100%
US	0.0%	0.0%	3.2%	0.5%	7.4%	1.4%	46.3%	41.1%	100%

Table 49: Estimated distribution of EPO applicants by year of foundation and residence bloc

Estimation incorporating structural weights
By number of employees
Total and breakdown by residence bloc

Residence bloc	Individual inventor	1 to 9	10 to 49	50 to 249	250 to 999	1 000 to 4 999	5 000 to 9 999	10 000 to 49 999	50 000 or more	Total
Total	1.3%	20.9%	24.9%	19.6%	18.9%	9.8%	1.8%	2.3%	0.4%	100%
EP	2.2%	24.0%	17.3%	20.2%	22.3%	10.2%	1.9%	1.3%	0.5%	100%
JA	0.0%	0.0%	7.6%	16.5%	32.6%	24.8%	7.1%	11.0%	0.5%	100%
OT	0.0%	15.7%	36.2%	29.5%	9.2%	8.1%	0.9%	0.5%	0.0%	100%
US	0.0%	22.2%	41.3%	11.8%	13.4%	6.2%	0.8%	3.6%	0.7%	100%

Table 50: Estimated distribution of EPO applicants by number of employees and residence bloc

With respect to the type of organisation, as in previous years, the overwhelming majority of EPO applicants (91.2%) are private enterprises, while the second biggest group are “other public sector” institutions (3.3%) followed by educational institutions (3.1%).

11.5 EPO joint clusters & mega clusters

All applicants in the survey were asked to describe themselves in terms of membership of one or more of the EPO joint clusters (questionnaire **Part C**, question f). The following figures provide an overview of the sample composition in terms of joint clusters for the Biggest and Random groups.

Figure 15 shows the number of responses per joint cluster for the Biggest group alone. **Figure 16** shows results for the Random group alone. **Table 51** lists the number of responses per joint cluster for the Random group broken down by residence bloc. It is of interest to test for independence of responses by blocs and mega clusters, which is possible by a simple chi-square test for association since the Random group was based on a simple random sample. The chi-square statistic on a Null hypothesis of no association is 22.4 on 12 degrees of freedom (p-value = 0.03). This indicates that industry distributions among survey respondents are dependent on geographical bloc of residence, as could be expected. It suggests that forecasting results by two-way breakdowns of mega clusters and

blocs (EG in Table 18) may be meaningful. A chi-square test by blocs and joint clusters was, however, not significant (48.5 on 39 degrees of freedom, p-value = 0.14).

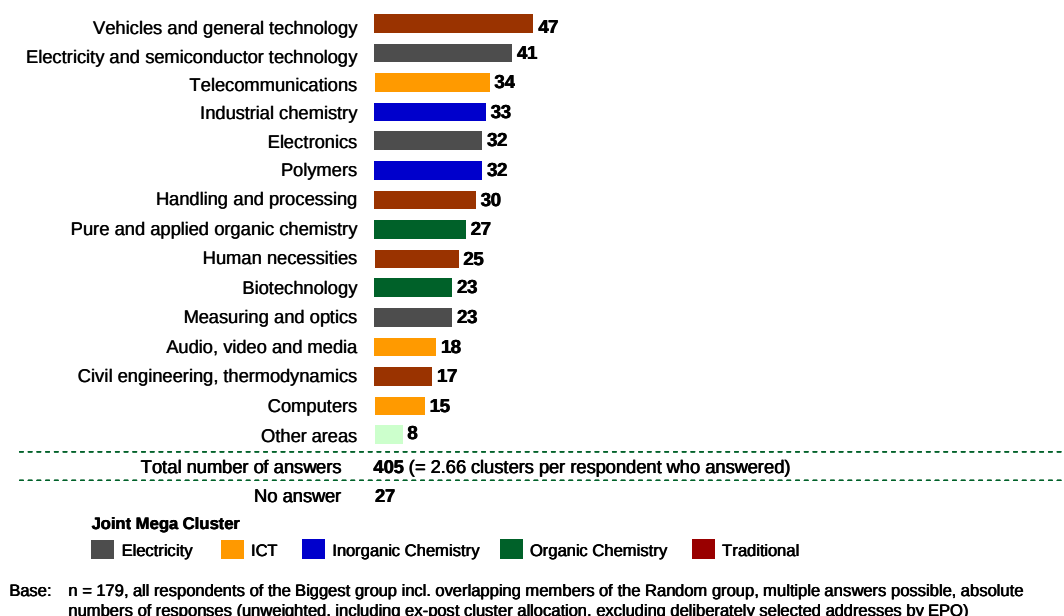


Figure 15: Number of responses per joint cluster (Biggest group including overlapping members of the Random group)

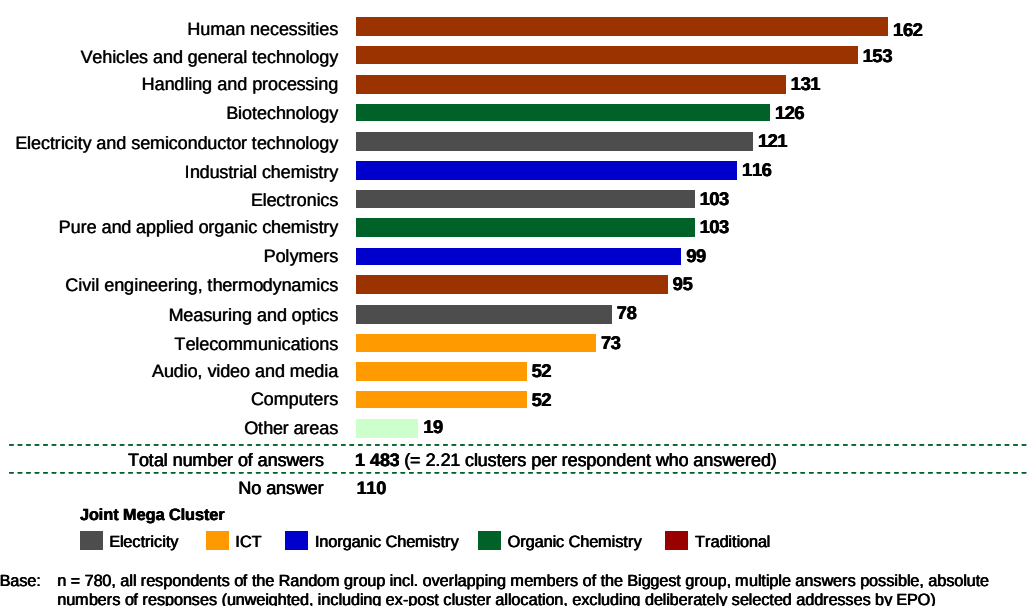


Figure 16: Number of responses per joint cluster (Random group including overlapping members of the Biggest group)

MC*	Joint cluster	Total	Bloc			
			EPC	US	JA	OT
Ele	1. Electricity/semiconductor tech	121	69	8	42	2
	2. Electronics	103	60	14	25	4
	3. Measuring and optics	78	49	10	17	2
ICT	4. Audio, video and media	52	23	9	17	3
	5. Computers	52	30	7	13	2
	6. Telecommunications	73	35	7	27	4
InoC	7. Industrial chemistry	116	70	11	31	4
	8. Polymers	99	59	13	24	3
OrC	9. Biotechnology	126	78	19	25	4
	10. Pure/applied organic chemistry	103	56	11	32	4
Trad	11. Civil engineering, thermodynamics	95	68	8	17	2
	12. Handling and processing	131	84	14	32	1
	13. Human necessities	162	115	13	30	4
	14. Vehicles and general technology	153	95	10	44	4
	Other areas	19	11	2	5	1
	No answer	110	68	21	20	1

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry

OrC = Organic Chemistry Trad = Traditional

Base: n = 780/511/85/159/25, all respondents of the Random group, incl. overlapping members of the Biggest group total/EP/US/JA/OT, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by the EPO)

Table 51: Number of responses per joint cluster (Random group including overlapping members of the Biggest group) broken down by bloc

Figure 17 shows the distribution of responses in the Biggest group combined with the number of joint clusters chosen. On average, the interviewees reported data for 2.66 joint clusters. The Random group respondents reported 2.21 joint clusters (see **Figure 18**). (The Random group in the previous 2009, 2008 and 2007 surveys reported data for 2.23, 2.02 and 1.91 joint clusters on average respectively.) In terms of the five mega clusters (for amalgamation of joint clusters into joint mega clusters see **Annex III**), the average number of mega clusters per respondent is 1.58 for the entire sample (1.57 in 2009), 1.81 for the Biggest group respondents (1.78 in 2009), and 1.60 for Random group respondents (1.57 in 2009).

Respondents

→ Mean value: 2.66 clusters per respondent

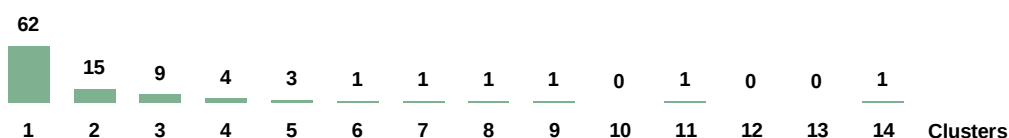


Base: n = 152, all respondents of the Biggest group incl. overlapping members of the Random group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by EPO)

Figure 17: Number of joint clusters selected per respondent (Biggest including overlapping members of the Random group)

Respondents

→ Mean value: 2.21 clusters per respondent



Base: n = 670, all respondents of the Random group incl. overlapping members of the Biggest group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by EPO)

Figure 18: Number of joint clusters selected per respondent (Random group including overlapping members of the Biggest group)

Table 52 to **Table 53** below indicate which combinations of joint clusters and mega clusters are cited most frequently. Each table shows a two-way matrix describing the cluster combinations selected by the interviewees of the Biggest group (**Table 52**), and Random group (**Table 53**). The tables indicate pairwise combinations but this picture is not absolutely complete, as **Figure 17** and **Figure 18** show that respondents sometimes indicate activities in more than two joint clusters.

MC*	Joint cluster	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Other areas
Ele	1. Electricity/semiconductor tech	41	21	18	12	11	19	14	9	9	10	9	12	8	16	4
	2. Electronics	21	32	12	10	11	15	9	9	8	7	8	7	4	14	4
	3. Measuring and optics	18	12	23	7	9	13	10	10	7	9	6	8	8	9	4
ICT	4. Audio, video and media	12	10	7	18	9	12	5	4	4	4	4	5	5	4	2
	5. Computers	11	11	9	9	15	10	4	5	3	6	3	3	2	5	3
	6. Telecommunications	19	15	13	12	10	34	7	6	6	6	6	9	4	13	5
InoC	7. Industrial chemistry	14	9	10	5	4	7	33	18	10	13	11	12	9	5	2
	8. Polymers	9	9	10	4	5	6	18	32	12	14	7	8	11	6	4
OrC	9. Biotechnology	9	8	7	4	3	6	10	12	23	13	6	7	7	6	2
	10. Pure/applied organic chemistry	10	7	9	4	6	6	13	14	13	27	5	7	9	4	3
Trad	11. Civil engineering, thermodynamics	9	8	6	4	3	6	11	7	6	5	17	6	5	7	2
	12. Handling and processing	12	7	8	5	3	9	12	8	7	7	6	30	8	9	2
	13. Human necessities	8	4	8	5	2	4	9	11	7	9	5	8	25	6	4
	14. Vehicles and general technology	16	14	9	4	5	13	5	6	6	4	7	9	6	47	1
	Other areas	4	4	4	2	3	5	2	4	2	3	2	2	4	1	8

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry OrC = Organic Chemistry Trad = Tradition

Base: n = 152, all respondents of the Biggest group, incl. overlapping members of the Random group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by the EPO)

Table 52: Number of responses per joint cluster combination (two-way matrix, Biggest group including overlapping members of the Random group)

MC*	Joint cluster	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Other areas
Ele	1. Electricity/semiconductor tech	121	57	49	33	36	40	49	39	38	34	32	42	35	44	8
	2. Electronics	57	103	41	32	39	39	35	35	39	30	35	34	33	41	9
	3. Measuring and optics	49	41	78	25	30	35	30	31	33	32	26	31	32	30	9
ICT	4. Audio, video and media	33	32	25	52	28	30	23	18	22	19	19	25	25	22	5
	5. Computers	36	39	30	28	52	30	21	21	22	20	20	22	20	25	6
	6. Telecommunications	40	39	35	30	30	73	25	22	27	23	22	24	21	32	8
InoC	7. Industrial chemistry	49	35	30	23	21	25	116	54	41	44	31	38	43	22	4
	8. Polymers	39	35	31	18	21	22	54	99	39	49	26	27	41	26	9
OrC	9. Biotechnology	38	39	33	22	22	27	41	39	126	56	28	25	50	24	9
	10. Pure/applied organic chemistry	34	30	32	19	20	23	44	49	56	103	22	23	46	22	7
Trad	11. Civil engineering, thermodynamics	32	35	26	19	20	22	31	26	28	22	95	31	30	31	5
	12. Handling and processing	42	34	31	25	22	24	38	27	25	23	31	131	30	30	5
	13. Human necessities	35	33	32	25	20	21	43	41	50	46	30	30	162	26	8
	14. Vehicles and general technology	44	41	30	22	25	32	22	26	24	22	31	30	26	153	5
	Other areas	8	9	9	5	6	8	4	9	9	7	5	5	8	5	19

* Mega Clusters: Ele = Electricity ICT = ICT InoC = Inorganic Chemistry OrC = Organic Chemistry Trad = Tradition

Base: n = 670, all respondents of the Random group, incl. overlapping members of the Biggest group who provided cluster information, absolute numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by the EPO)

Table 53: Number of responses per joint cluster combination (two-way matrix, Random group including overlapping members of the Biggest group)

12 Annex VI: Analysis of company economic attributes

In **Part C** of the questionnaire, applicants were asked to provide more detailed information about their sales, R&D budgets, inventions, numbers of staff involved in making inventions, and the numbers of first patent filings in 2009 throughout the world (with splits by joint clusters for R&D budgets and first filings).

For the questions on R&D budget and sales, currencies had to be specified by the respondents. Therefore, before analysing Part C, the numbers given for R&D budget and sales were recalculated to EUR. Interbank exchange rates current as of January 18, 2011, were applied to the responses to those questions.

Ten different indicators are reported for the results that are reported in the following tables. Five of these are directly taken from the questionnaire, namely: total sales, the total number of staff, the number of staff involved in making inventions, the number of distinct inventions considered for patent applications, the proportion of inventions that led to patent filings, the number of first patent filings, and the average number of first filings per invention. Two indicators were accumulated over data broken down by joint clusters. These indicators are: R&D budgets and first patent filings. The remaining two indicators are ratios derived by apportioning company activities to first filings. These ratios are: total sales per first filing and R&D budget per first filing.

Summary results for each sample grouping are shown in **Table 54**. Bearing in mind the asymmetry of some distributions among the population, particularly for variables that measure quantities related to the size of applicant companies, and also on the grounds of considering the robustness of the estimates, for the Random group it is considered to be more appropriate to compare the weighted medians rather than the weighted means.

A comparison of the Biggest group with the weighted version of the Random group in this table suggests that it is not only the absolute measures that are higher for the Biggest group than the Random group (e.g. total number of inventions considered for patent application). Both ratio indicators are also higher for the Biggest group than for the Random group (sales per first patent filing, R&D budget by first patent filing).

Detailed tables are shown in unweighted and weighted versions for the Random group in **Table 55** to **Table 58**. Each set of tables is shown once itemised by mega cluster and once by residence bloc.

For the analyses itemised by mega cluster, **Table 55** contains the unweighted analyses for the Random group and **Table 56** contains the weighted results of the Random group.

For the analyses broken down by residence bloc, **Table 57** contains the unweighted analyses for the Random group and **Table 58** contains the weighted results of the Random group. The explicit question on the number of staff involved in making inventions is new to this survey, and comes out overall with medians of 560 for the Biggest group and only 5 for the Random group (weighted), although the mean values are far higher due to the asymmetric distributions.

The technology breakdowns are made by the smaller set of 5 mega clusters rather than by 14 joint clusters as in reports up to 2007. This aggregation of data via mega clusters makes the statistics more dependable. Still, due to the intricate weighting mechanism with large weight spans, comparisons should be made with caution. The analyses were made using all data available for the groups concerned, while in surveys before 2007 some outliers were excluded. The distribution of the measured quantities within the applicant population shifts slightly from year to year due to changes in economic circumstances, but in this year's survey also because of the new technique to standardise the population according to applicant names and because of the modification to the weights (cf. footnote 25).

By sample group

	Statistic	Total number of inventions considered for patent application	Proportion of inventions which lead to patent filings throughout the world [%]	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]	Number of first patent filings throughout the world in 2009
Biggest Unweighted	N	117	115	133	63	171
	MIN	22	0	4 439	3 912	20
	MAX	15 379	100	1 126 829 268	55 762 430	6 770
	MEAN	1 131	66	59 344 491	3 836 289	658
	MEDIAN	400	70	15 633 940	1 019 018	206
	SE	205	2	13 134 891	1 188 478	86
Random Unweighted	N	549	556	472	285	678
	MIN	1	0	287	100	1
	MAX	15 379	100	9 716 375 000	78 249 512	6 770
	MEAN	279	62	65 403 618	2 443 885	200
	MEDIAN	24	67	14 455 682	666 667	23
	SE	47	1	21 188 424	405 667	25
Random Weighted	N	549	556	472	285	678
	MIN	1	0	287	100	1
	MAX	15 379	100	9 716 375 000	78 249 512	6 770
	MEAN	28	58	44 805 930	984 328	22
	MEDIAN	5	60	3 730 500	275 812	3
	SE	11	2	18 835 860	192 738	6

Approximate total sales throughout the world in 2009 [EUR]	Number of employees at the end of 2009	Number of staff directly involved in making inventions	Approximate R&D budget in 2009 [EUR]	First patent filings by number of inventions
137	145	106	64	116
3 160 500	25	15	1 600 000	15%
171 118 500 000	436 651	30 000	7 617 638 000	182%
13 324 583 848	35 914	2 504	884 179 011	72%
5 222 700 000	12 775	560	252 323 000	74%
2 015 398 978	5 427	520	202 974 437	0.03
511	631	563	302	518
10 000	1	1	100	3%
171 118 500 000	436 651	30 000	7 617 638 000	800%
4 462 210 363	10 747	633	247 356 523	82%
450 777 600	1 200	50	13 977 923	71%
618 981 317	1 397	107	49 400 150	0.03
511	631	563	302	518
10 000	1	1	100	3%
171 118 500 000	436 651	30 000	7 617 638 000	800%
486 162 957	1 394	100	22 180 379	105%
13 429 800	50	5	777 310	88%
175 960 275	391	35	12 938 255	0.05

Table 54: Main statistics for the various sample groups

Random group
Unweighted

Mega Cluster	Statistic	Total number of inventions considered for patent application	Proportion of inventions which lead to patent filings throughout the world [%]	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]	Number of first patent filings throughout the world in 2009
Electricity	N	132	158	124	67	159
	MIN	1	0	287	4 714	1
	MAX	6 224	100	1 126 829 268	11 935 300	3 365
	MEAN	255	61	30 182 403	1 407 379	198
	MEDIAN	22	65	7 258 472	451 500	15
	SE	70	2	9 498 352	258 796	40
Organic Chemistry	N	124	140	93	64	154
	MIN	1	0	513	5 500	1
	MAX	665	100	649 428 095	78 249 512	577
	MEAN	65	64	55 139 968	6 865 778	48
	MEDIAN	19	70	16 656 643	2 000 000	14
	SE	11	3	10 804 010	1 638 684	7
Inorganic Chemistry	N	111	128	101	52	138
	MIN	1	0	513	100	1
	MAX	1 518	100	414 500 000	18 501 467	850
	MEAN	86	65	40 709 584	1 450 838	60
	MEDIAN	15	73	15 000 000	500 000	13
	SE	19	3	6 892 935	413 809	11
ICT	N	73	94	66	37	87
	MIN	1	0	513	5 846	1
	MAX	6 005	100	355 655 919	35 000 000	4 513
	MEAN	440	60	26 137 350	2 760 975	302
	MEDIAN	46	60	6 845 301	1 065 857	40
	SE	118	3	6 533 347	1 099 077	71
Traditional	N	309	341	290	195	380
	MIN	0	0	287	3 750	1
	MAX	17 735	100	9 716 375 000	44 160 610	7 212
	MEAN	199	61	84 184 990	1 968 136	111
	MEDIAN	19	65	16 724 296	666 667	15
	SE	60	2	34 326 488	350 039	24
Total	N	549	556	472	285	678
	MEAN	279	62	65 403 618	2 443 885	200
	MEDIAN	24	67	14 455 682	666 667	23

Approximate total sales throughout the world in 2009 [EUR]	Number of employees at the end of 2009	Number of staff directly involved in making inventions	Approximate R&D budget in 2009 [EUR]	First patent filings by number of inventions
124	141	123	72	150
10 000	0	1	5 000	9%
74 610 000 000	327 366	24 249	2 890 000 000	300%
2 528 779 918	9 217	702	108 810 382	71%
300 000 000	859	48	8 549 675	65%
814 882 648	2 913	263	43 677 088	0.04
93	145	119	69	133
22 575	1	1	11 935	9%
41 563 398 063	100 000	15 000	5 251 051 800	800%
2 952 699 983	5 390	534	367 164 954	94%
476 190 476	710	50	30 000 000	75%
762 777 912	1 188	173	118 109 558	0.09
101	126	105	55	120
11 288	0	1	100	9%
26 548 200 000	34 953	1 071	464 000 000	300%
1 862 576 643	3 047	136	42 263 893	73%
293 410 112	742	34	6 646 080	70%
401 415 677	549	20	10 393 379	0.04
66	77	65	43	85
22 575	0	1	37 305	3%
52 992 732 000	260 000	17 813	6 043 410 000	200%
4 920 160 202	12 667	1 122	312 681 018	66%
367 624 158	1 425	85	10 146 960	64%
1 401 996 309	3 934	348	153 950 575	0.03
290	344	306	208	322
10 631	0	1	450	3%
197 330 767 829	351 451	10 707	5 486 628 000	800%
3 454 720 213	8 216	377	127 870 888	74%
348 500 000	1 100	45	10 000 000	69%
825 495 113	1 319	69	36 545 187	0.03
511	631	563	302	518
4 462 210 363	10 747	633	247 356 523	82%
450 777 600	1 200	50	13 977 923	71%

Table 55: Main statistics for activities in various sectors – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Statistic	Total number of inventions considered for patent application	Proportion of inventions which lead to patent filings throughout the world [%]	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]	Number of first patent filings throughout the world in 2009
Electricity	N	132	158	124	67	159
	MIN	1	0	287	4 714	1
	MAX	6 224	100	1 126 829 268	11 935 300	3 365
	MEAN	31	58	14 662 920	891 312	23
	MEDIAN	6	60	3 400 000	174 089	3
	SE	21	3	3 624 878	190 713	11
Organic Chemistry	N	124	140	93	64	154
	MIN	1	0	513	5 500	1
	MAX	665	100	649 428 095	78 249 512	577
	MEAN	19	60	29 402 093	1 824 984	14
	MEDIAN	5	60	2 864 472	312 500	5
	SE	5	3	8 180 197	867 040	3
Inorganic Chemistry	N	111	128	101	52	138
	MIN	1	0	513	100	1
	MAX	1 518	100	414 500 000	18 501 467	850
	MEAN	16	60	31 480 932	816 029	12
	MEDIAN	5	67	10 000 000	343 643	4
	SE	5	3	6 308 573	196 171	3
ICT	N	73	94	66	37	87
	MIN	1	0	513	5 846	1
	MAX	6 005	100	355 655 919	35 000 000	4 513
	MEAN	43	47	12 735 846	1 816 273	25
	MEDIAN	5	30	3 730 500	1 099 325	2
	SE	32	4	2 690 217	400 225	19
Traditional	N	309	341	290	195	380
	MIN	0	0	287	3 750	1
	MAX	17 735	100	9 716 375 000	44 160 610	7 212
	MEAN	27	58	64 637 943	988 559	17
	MEDIAN	5	60	6 168 185	288 960	4
	SE	13	2	31 919 389	229 107	5
Total	N	549	556	472	285	678
	MEAN	28	58	44 805 930	984 328	22
	MEDIAN	5	60	3 730 500	275 812	3

Approximate total sales throughout the world in 2009 [EUR]	Number of employees at the end of 2009	Number of staff directly involved in making inventions	Approximate R&D budget in 2009 [EUR]	First patent filings by number of inventions
124	141	123	72	150
10 000	0	1	5 000	9%
74 610 000 000	327 366	24 249	2 890 000 000	300%
379 084 083	1 253	108	12 003 826	87%
14 922 000	140	7	500 000	63%
288 854 116	847	75	9 335 027	0.06
93	145	119	69	133
22 575	1	1	11 935	9%
41 563 398 063	100 000	15 000	5 251 051 800	800%
566 734 267	1 139	210	41 369 718	140%
4 400 000	35	12	1 000 000	89%
315 158 832	458	93	38 534 451	0.13
101	126	105	55	120
11 288	0	1	100	9%
26 548 200 000	34 953	1 071	464 000 000	300%
504 693 202	758	44	5 158 163	78%
50 568 000	150	9	1 500 000	74%
226 161 979	217	10	2 930 103	0.05
66	77	65	43	85
22 575	0	1	37 305	3%
52 992 732 000	260 000	17 813	6 043 410 000	200%
442 947 822	1 298	136	21 602 320	77%
7 461 000	50	20	1 715 700	85%
438 286 552	1 115	125	43 087 069	0.06
290	344	306	208	322
10 631	0	1	450	3%
197 330 767 829	351 451	10 707	5 486 628 000	800%
435 791 622	1 511	73	10 668 028	94%
18 652 500	100	4	800 000	80%
202 304 794	448	24	7 168 972	0.05
511	631	563	302	518
486 162 957	1 394	100	22 180 379	105%
13 429 800	50	5	777 310	88%

Table 56: Main statistics for activities in various sectors – Random group (weighted)

Random group
Unweighted

Residence bloc	Statistic	Total number of inventions considered for patent application	Proportion of inventions which lead to patent filings throughout the world [%]	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]	Number of first patent filings throughout the world in 2009
EP	N	367	372	292	182	439
	MIN	1	0	4 483	100	1
	MAX	7 700	100	9 716 375 000	36 978 825	4 163
	MEAN	104	60	87 305 505	1 994 418	75
	MEDIAN	13	64	18 786 765	759 615	11
	SE	25	2	34 063 324	289 477	15
JP	N	110	108	128	73	149
	MIN	2	0	287	30 100	1
	MAX	15 379	100	649 428 095	55 762 430	6 770
	MEAN	872	70	25 842 545	3 087 582	619
	MEDIAN	291	80	10 280 158	451 500	155
	SE	188	3	5 748 598	941 323	94
OT	N	21	22	13	9	19
	MIN	1	2	52 226	62 432	1
	MAX	186	100	245 967 033	3 771 850	165
	MEAN	31	59	29 206 255	1 298 379	27
	MEDIAN	10	50	7 461 000	1 002 103	12
	SE	11	7	18 422 206	404 024	10
US	N	51	54	39	21	71
	MIN	1	0	7 461	7 461	1
	MAX	10 000	100	400 346 341	78 249 512	2 200
	MEAN	363	58	43 327 510	4 592 579	138
	MEDIAN	42	60	6 754 954	835 632	33
	SE	204	4	12 893 488	3 688 688	44
Total	N	549	556	472	285	678
	MEAN	279	62	65 403 618	2 443 885	200
	MEDIAN	24	67	14 455 682	666 667	23

Approximate total sales throughout the world in 2009 [EUR]	Number of employees at the end of 2009	Number of staff directly involved in making inventions	Approximate R&D budget in 2009 [EUR]	First patent filings by number of inventions
316	408	383	195	344
10 000	1	1	100	3%
79 000 000 000	436 651	30 000	7 617 638 000	800%
3 249 259 095	10 005	466	182 130 720	82%
200 000 000	750	26	6 218 480	70%
571 978 125	1 878	114	55 862 882	0.04
133	141	107	74	110
31 605	15	2	90 300	5%
171 118 500 000	157 000	9 285	5 486 628 000	213%
6 833 513 368	11 327	706	388 738 815	73%
2 257 500 000	4 000	233	107 908 500	75%
1 542 778 980	1 856	125	99 087 344	0.03
18	23	22	12	16
74 610	1	1	44 766	20%
22 383 000 000	11 000	3 000	264 029 500	240%
1 427 711 904	1 567	234	28 244 844	88%
16 787 250	100	9	2 648 676	62%
1 235 834 238	605	140	21 628 228	0.17
44	59	51	21	48
29 844	1	1	7 461	6%
149 220 000 000	300 000	30 000	6 416 460 000	600%
7 246 989 305	18 071	1 901	480 027 097	103%
578 227 500	1 200	50	3 730 500	66%
3 510 091 414	5 824	760	333 303 650	0.17
511	631	563	302	518
4 462 210 363	10 747	633	247 356 523	82%
450 777 600	1 200	50	13 977 923	71%

Table 57: Main statistics for activities by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Statistic	Total number of inventions considered for patent application	Proportion of inventions which lead to patent filings throughout the world [%]	Total sales by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]	Number of first patent filings throughout the world in 2009
EP	N	367	372	292	182	439
	MIN	1	0	4 483	100	1
	MAX	7 700	100	9 716 375 000	36 978 825	4 163
	MEAN	13	54	73 399 922	1 048 065	11
	MEDIAN	4	50	10 909 091	300 000	3
	SE	6	2	32 715 360	170 414	4
JP	N	110	108	128	73	149
	MIN	2	0	287	30 100	1
	MAX	15 379	100	649 428 095	55 762 430	6 770
	MEAN	192	68	19 543 299	1 253 735	142
	MEDIAN	28	80	11 255 250	415 380	23
	SE	69	3	3 331 722	478 261	38
OT	N	21	22	13	9	19
	MIN	1	2	52 226	62 432	1
	MAX	186	100	245 967 033	3 771 850	165
	MEAN	9	55	11 086 145	1 093 210	10
	MEDIAN	4	50	3 730 500	746 100	2
	SE	4	8	7 573 284	323 255	4
US	N	51	54	39	21	71
	MIN	1	0	7 461	7 461	1
	MAX	10 000	100	400 346 341	78 249 512	2 200
	MEAN	41	66	10 772 361	748 353	22
	MEDIAN	5	75	895 320	149 220	5
	SE	45	5	7 489 497	1 077 889	11
Total	N	549	556	472	285	678
	MEAN	28	58	44 805 930	984 328	22
	MEDIAN	5	60	3 730 500	275 812	3

Approximate total sales throughout the world in 2009 [EUR]	Number of employees at the end of 2009	Number of staff directly involved in making inventions	Approximate R&D budget in 2009 [EUR]	First patent filings by number of inventions
316	408	383	195	344
10 000	1	1	100	3%
79 000 000 000	436 651	30 000	7 617 638 000	800%
387 691 769	1 237	55	14 139 996	98%
20 000 000	80	5	560 150	75%
172 089 834	508	27	12 892 430	0.06
133	141	107	74	110
31 605	15	2	90 300	5%
171 118 500 000	157 000	9 285	5 486 628 000	213%
1 710 954 934	3 988	195	111 133 273	72%
316 050 000	785	40	7 675 500	69%
620 637 568	832	51	45 277 488	0.03
18	23	22	12	16
74 610	1	1	44 766	20%
22 383 000 000	11 000	3 000	264 029 500	240%
186 766 394	362	31	4 531 182	106%
4 103 550	40	5	1 119 150	89%
425 912 491	234	40	5 782 225	0.21
44	59	51	21	48
29 844	1	1	7 461	6%
149 220 000 000	300 000	30 000	6 416 460 000	600%
591 072 549	1 843	248	28 481 294	128%
1 716 030	25	5	746 100	100%
852 388 826	1 543	214	69 359 546	0.15
511	631	563	302	518
486 162 957	1 394	100	22 180 379	105%
13 429 800	50	5	777 310	88%

Table 58: Main statistics for activities by residence bloc – Random group (weighted)

A histogram of R&D spending for the Biggest group is shown in **Figure 19**, for the Random group (unweighted) in **Figure 20**, and for the Random group using extended structural weights in **Figure 21**. Note the lower categories (reduced evenly by one power of ten) for the histogram in **Figure 21**, demonstrating the effect of structurally weighting Random group applicants.

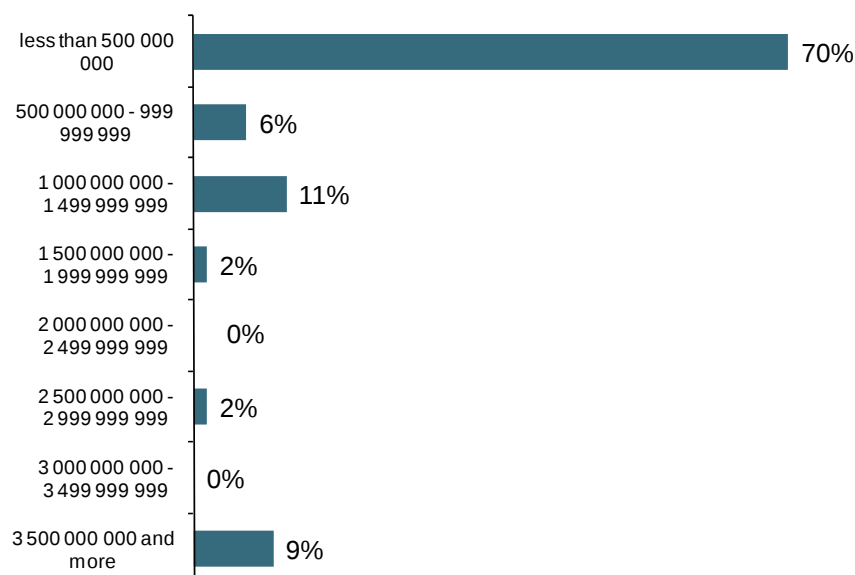


Figure 19: Histogram of annual R&D spending in EUR for Biggest group applicants

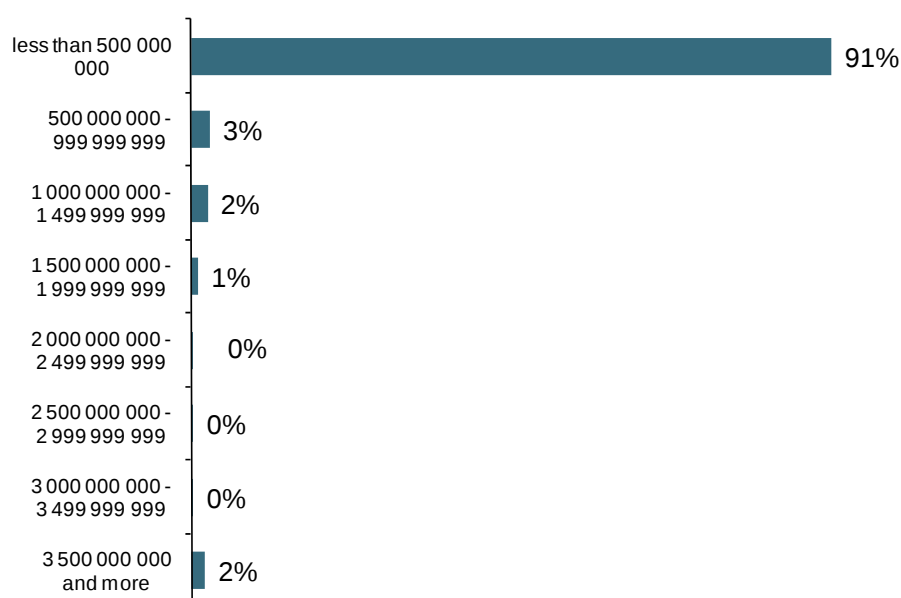


Figure 20: Histogram of annual R&D spending in EUR for Random group applicants (unweighted)

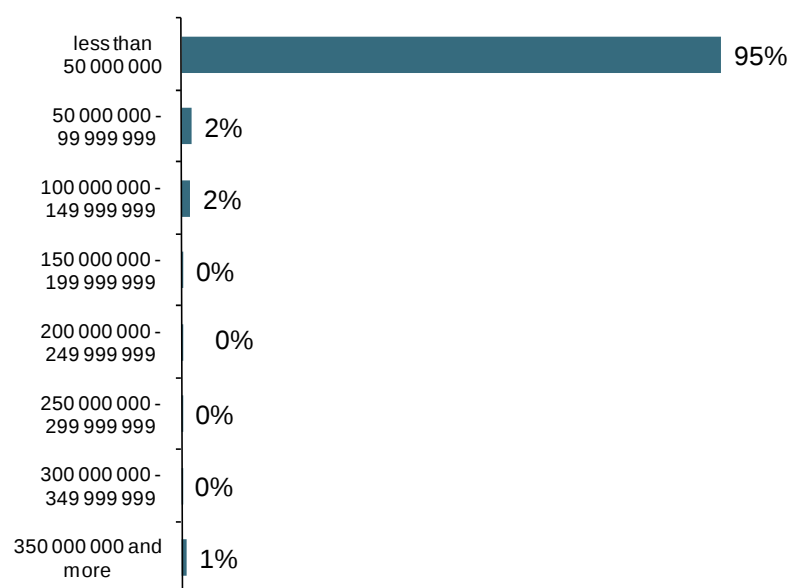


Figure 21: Histogram of annual R&D spending in EUR for Random group applicants (weighted using structural weights)

13 Annex VII: Applicant assessment of various fee issues

This year's survey included additional questions on applicant assessments of various fee issues.

13.1 Assessment of differential fees

The questions were:

a) *To what extent would you agree to the principle of differential fees that are linked to the demand for each of the following items for a patent application? Assume that any changes are cost-neutral over all users of the EPO system taken together.*

b) *Only for each of the items in a) that you answered with a scale value of 3, 4 or 5: Should differential fees increase progressively to dissuade excessive usage for one application?*

Table 59 to **Table 63** display the results for questions a) and b) of Section D of this year's questionnaire (**Annex I**).

In the Biggest group, the results in **Table 59** show a high degree of acceptance of differential fees for requests for extensions of time limits and requests for further processing, and a clear majority of those with preference for these "fees for time" think that progressive fees for such requests would be appropriate. On the other hand, the degree of acceptance for fees differentiated according to the number of amendments and communications is much lower in the Biggest group, although this effect is not as marked in the whole population as shown by the weighted Random group results in **Tables 61 and 63**.

Biggest group

Residence Bloc	Item	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Average agreement score	Valid N among agreement level 3-5	Prefer progressive fee
Total	Number of communications	148	39%	28%	24%	7%	1%	2.03	42	60%
	Number of amendments	149	35%	24%	29%	10%	2%	2.20	53	60%
	Requests for extensions of time limits	149	27%	12%	30%	21%	10%	2.75	83	78%
	Requests for further processing	144	25%	19%	26%	17%	13%	2.74	71	80%
EP	Number of communications	80	55%	25%	13%	6%	1%	1.74	15	47%
	Number of amendments	80	48%	26%	16%	8%	3%	1.91	19	53%
	Requests for extensions of time limits	80	38%	9%	23%	19%	13%	2.60	41	78%
	Requests for further processing	79	34%	10%	20%	16%	19%	2.76	42	79%
JA	Number of communications	58	19%	31%	38%	10%	2%	2.45	25	68%
	Number of amendments	58	21%	21%	41%	16%	2%	2.57	30	67%
	Requests for extensions of time limits	58	14%	17%	38%	24%	7%	2.93	36	75%
	Requests for further processing	54	13%	35%	31%	17%	4%	2.63	23	78%
OT	Number of communications	-								
	Number of amendments	-								
	Requests for extensions of time limits	-								
	Requests for further processing	-								
US	Number of communications	10	30%	40%	30%	0%	0%	2.00	2	50%
	Number of amendments	11	18%	27%	55%	0%	0%	2.36	4	50%
	Requests for extensions of time limits	11	18%	9%	45%	18%	9%	2.91	6	100%
	Requests for further processing	11	18%	9%	36%	18%	18%	3.09	6	100%

Table 59: Assessment of differential fees linked to specific items broken down by residence bloc – Biggest group

Random group
Unweighted

Residence Bloc	Item	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Average agreement score	Valid N among agreement level 3-5	Prefer progressive fee
Total	Number of communications	607	33%	24%	27%	11%	4%	2.30	234	62%
	Number of amendments	609	26%	20%	31%	17%	5%	2.55	294	66%
	Requests for extensions of time limits	610	21%	15%	28%	23%	13%	2.90	355	75%
	Requests for further processing	603	21%	18%	29%	20%	12%	2.84	339	71%
EP	Number of communications	382	41%	20%	24%	11%	5%	2.20	136	60%
	Number of amendments	384	32%	18%	28%	16%	6%	2.46	173	65%
	Requests for extensions of time limits	384	27%	15%	24%	19%	16%	2.83	208	72%
	Requests for further processing	380	26%	15%	25%	19%	15%	2.83	209	69%
JA	Number of communications	144	15%	33%	37%	14%	1%	2.54	68	68%
	Number of amendments	144	14%	25%	35%	23%	3%	2.76	81	70%
	Requests for extensions of time limits	144	9%	19%	34%	33%	5%	3.06	97	80%
	Requests for further processing	141	11%	29%	37%	22%	1%	2.74	77	77%
OT	Number of communications	22	32%	9%	32%	14%	14%	2.68	11	73%
	Number of amendments	22	18%	14%	36%	23%	9%	2.91	11	73%
	Requests for extensions of time limits	22	23%	9%	23%	41%	5%	2.95	12	83%
	Requests for further processing	22	14%	5%	41%	36%	5%	3.14	15	73%
US	Number of communications	59	34%	31%	25%	7%	3%	2.15	19	53%
	Number of amendments	59	22%	24%	41%	8%	5%	2.51	29	55%
	Requests for extensions of time limits	60	17%	13%	38%	17%	15%	3.00	38	74%
	Requests for further processing	60	18%	12%	33%	20%	17%	3.05	38	66%

Table 60: Assessment of differential fees linked to specific items broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence Bloc	Item	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Average agreement score	Valid N among agreement level 3-5	Prefer progressive fee
Total	Number of communications	607	27%	17%	34%	14%	9%	2.60	234	63%
	Number of amendments	609	19%	16%	35%	24%	7%	2.84	294	67%
	Requests for extensions of time limits	610	16%	12%	35%	25%	12%	3.05	355	70%
	Requests for further processing	603	16%	11%	34%	30%	10%	3.07	339	63%
EP	Number of communications	382	29%	14%	34%	14%	8%	2.58	136	58%
	Number of amendments	384	20%	16%	32%	23%	9%	2.84	173	66%
	Requests for extensions of time limits	384	18%	15%	32%	20%	15%	3.00	208	63%
	Requests for further processing	380	18%	16%	33%	20%	13%	2.95	209	57%
JA	Number of communications	144	12%	37%	31%	20%	1%	2.61	68	62%
	Number of amendments	144	9%	32%	25%	31%	3%	2.87	81	71%
	Requests for extensions of time limits	144	3%	19%	36%	40%	2%	3.19	97	76%
	Requests for further processing	141	6%	22%	44%	28%	0%	2.96	77	78%
OT	Number of communications	22	31%	9%	27%	10%	23%	2.86	11	78%
	Number of amendments	22	23%	15%	28%	32%	3%	2.75	11	77%
	Requests for extensions of time limits	22	25%	1%	26%	47%	1%	2.99	12	84%
	Requests for further processing	22	16%	1%	30%	53%	0%	3.22	15	74%
US	Number of communications	59	23%	23%	39%	14%	1%	2.46	19	64%
	Number of amendments	59	15%	12%	50%	17%	6%	2.87	29	64%
	Requests for extensions of time limits	60	12%	9%	47%	18%	14%	3.14	38	73%
	Requests for further processing	60	14%	4%	35%	34%	12%	3.25	38	62%

Table 61: Assessment of differential fees linked to specific items broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Item	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Average agreement score	Valid N among agreement level 3-5	Prefer progressive fee
Electricity	Number of communications	171	30%	26%	29%	9%	5%	2.34	64	63%
	Number of amendments	171	22%	20%	35%	15%	8%	2.65	84	64%
	Requests for extensions of time limits	170	17%	16%	30%	25%	12%	2.98	100	75%
	Requests for further processing	166	19%	19%	28%	25%	10%	2.89	91	67%
Organic Chemistry	Number of communications	156	31%	26%	29%	10%	3%	2.26	61	67%
	Number of amendments	155	24%	19%	34%	19%	3%	2.59	79	71%
	Requests for extensions of time limits	156	21%	17%	26%	27%	10%	2.90	89	80%
	Requests for further processing	155	20%	15%	29%	26%	10%	2.92	93	74%
Inorganic Chemistry	Number of communications	150	33%	25%	29%	11%	2%	2.24	58	67%
	Number of amendments	150	27%	22%	30%	19%	3%	2.49	70	67%
	Requests for extensions of time limits	150	18%	18%	25%	27%	13%	2.98	87	75%
	Requests for further processing	149	19%	20%	27%	22%	11%	2.86	82	70%
ICT	Number of communications	100	24%	29%	31%	12%	4%	2.43	38	63%
	Number of amendments	100	18%	20%	34%	23%	5%	2.77	52	69%
	Requests for extensions of time limits	100	13%	14%	35%	30%	8%	3.06	65	72%
	Requests for further processing	99	13%	18%	27%	31%	10%	3.07	58	79%
Traditional	Number of communications	364	35%	22%	28%	11%	4%	2.29	140	62%
	Number of amendments	366	26%	18%	34%	18%	4%	2.57	184	64%
	Requests for extensions of time limits	368	23%	13%	26%	25%	14%	2.94	218	76%
	Requests for further processing	365	21%	17%	27%	22%	13%	2.87	207	74%

Table 62: Assessment of differential fees linked to specific items broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Item	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Average agreement score	Valid N among agreement level 3-5	Prefer progressive fee
Electricity	Number of communications	171	16%	25%	35%	12%	12%	2.78	64	54%
	Number of amendments	171	7%	15%	41%	24%	13%	3.21	84	60%
	Requests for extensions of time limits	170	6%	13%	38%	28%	16%	3.34	100	64%
	Requests for further processing	166	11%	13%	29%	38%	9%	3.22	91	54%
Organic Chemistry	Number of communications	156	19%	24%	32%	11%	13%	2.75	61	68%
	Number of amendments	155	13%	12%	46%	24%	5%	2.94	79	65%
	Requests for extensions of time limits	156	12%	10%	41%	25%	11%	3.13	89	66%
	Requests for further processing	155	16%	6%	39%	29%	10%	3.10	93	60%
Inorganic Chemistry	Number of communications	150	36%	24%	27%	10%	2%	2.18	58	49%
	Number of amendments	150	25%	21%	31%	19%	4%	2.56	70	59%
	Requests for extensions of time limits	150	20%	16%	26%	26%	11%	2.90	87	59%
	Requests for further processing	149	24%	15%	30%	18%	12%	2.79	82	57%
ICT	Number of communications	100	10%	23%	42%	15%	10%	2.93	38	49%
	Number of amendments	100	6%	15%	39%	38%	3%	3.18	52	59%
	Requests for extensions of time limits	100	6%	6%	49%	29%	9%	3.29	65	58%
	Requests for further processing	99	9%	6%	43%	33%	10%	3.30	58	65%
Traditional	Number of communications	364	34%	15%	33%	12%	6%	2.41	140	62%
	Number of amendments	366	22%	15%	39%	21%	3%	2.69	184	65%
	Requests for extensions of time limits	368	21%	9%	32%	27%	11%	2.97	218	72%
	Requests for further processing	365	18%	12%	29%	33%	8%	3.01	207	67%

Table 63: Assessment of differential fees linked to specific items broken down by mega cluster – Random group (weighted)

13.2 Agreement with statements regarding fees

The questions were:

c) *To what extent do you agree/disagree with the following statements?*

d) *For item (c) 3 only, if you have answered with scale values 3, 4 or 5: Please specify which measure of country size in Europe should set the level of national renewal fees.*

Table 64 to **Table 68** display the results for questions c) and d) of Section D of this year's questionnaire (**Annex I**).

The administration of paying national renewal fees in each and every country separately is considered to be burdensome. Also the advantage of having the possibility to choose only those countries that are of interest under the existing system is important for more than two thirds of the respondents. A linkage of national renewal fees to the size of the country is an important factor for applicants in general (**Table 66**), but not so much for the biggest applicants except for those in the US (**Table 64**).

Biggest group

Residence Bloc	Statement	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Preferred measure of country size			
								Valid N among agreement level 3-5	Gross Domestic Product	Population	Other
Total	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	155	10%	24%	25%	18%	24%				
		156	8%	16%	21%	29%	26%				
		155	21%	31%	20%	17%	11%	75	32%	8%	1%
EP	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	84	11%	24%	21%	15%	29%				
		84	8%	11%	17%	27%	37%				
		84	20%	31%	13%	17%	19%	41	33%	13%	1%
JA	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	57	7%	23%	26%	23%	21%				
		58	7%	28%	29%	28%	9%				
		58	24%	34%	28%	12%	2%	24	29%	2%	2%
OT	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	-									
		-									
		-									
US	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	14	14%	29%	36%	14%	7%				
		14	7%	0%	14%	50%	29%				
		13	8%	15%	31%	46%	0%	10	33%	5%	0%

Table 64: Agreement with statements regarding fees broken down by residence bloc – Biggest group

Random group
Unweighted

Residence Bloc	Statement	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Preferred measure of country size			
								Valid N among agreement level 3 -5	Gross Domestic Product	Population	Other
Total	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	641	9%	18%	22%	19%	32%				
		643	12%	16%	22%	24%	26%				
		643	18%	25%	21%	20%	16%	371	36%	11%	3%
EP	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	405	12%	18%	19%	18%	34%				
		406	13%	13%	16%	23%	34%				
		406	20%	21%	19%	18%	21%	238	35%	14%	3%
JA	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	147	3%	20%	30%	25%	22%				
		148	9%	24%	37%	25%	4%				
		147	16%	40%	26%	17%	1%	65	32%	3%	2%
OT	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	24	4%	8%	13%	29%	46%				
		23	17%	17%	26%	17%	22%				
		24	17%	13%	8%	38%	25%	17	36%	12%	8%
US	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	65	8%	14%	28%	14%	37%				
		66	5%	12%	24%	29%	30%				
		66	6%	17%	29%	30%	18%	51	52%	10%	0%

Table 65: Agreement with statements regarding fees broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence Bloc	Statement	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Preferred measure of country size			
								Valid N among agreement level 3 -5	Gross Domestic Product	Population	Other
Total	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	641	9%	11%	21%	16%	43%				
		643	14%	17%	23%	20%	26%				
		643	15%	17%	23%	24%	22%	437	41%	14%	3%
EP	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	405	13%	12%	23%	12%	39%				
		406	17%	13%	16%	21%	32%				
		406	20%	17%	23%	18%	23%	257	32%	16%	2%
JA	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	147	0%	12%	37%	31%	21%				
		148	6%	31%	39%	18%	5%				
		147	5%	45%	31%	18%	0%	74	33%	5%	0%
OT	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	24	7%	8%	3%	23%	59%				
		23	23%	23%	25%	13%	17%				
		24	17%	8%	8%	43%	24%	18	49%	8%	8%
US	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	65	2%	10%	26%	14%	48%				
		66	2%	16%	33%	24%	26%				
		66	3%	18%	32%	25%	22%	52	60%	15%	0%

Table 66: Agreement with statements regarding fees broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Statement	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Preferred measure of country size			
								Valid N among agreement level 3 -5	Gross Domestic Product	Population	Other
Electricity	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	177	11%	18%	21%	19%	32%				
		178	14%	15%	27%	25%	19%				
		178	17%	25%	25%	15%	17%	102	40%	12%	1%
Organic Chemistry	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	164	7%	13%	22%	26%	32%				
		163	9%	19%	21%	25%	26%				
		164	10%	26%	23%	24%	17%	105	47%	14%	3%
Inorganic Chemistry	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	156	8%	18%	20%	21%	33%				
		156	6%	18%	26%	24%	26%				
		154	16%	25%	23%	19%	16%	91	42%	15%	4%
ICT	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	104	6%	18%	21%	23%	32%				
		105	9%	20%	30%	22%	19%				
		105	10%	24%	30%	20%	15%	69	44%	16%	1%
Traditional	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	383	10%	17%	22%	19%	31%				
		385	13%	14%	21%	25%	27%				
		387	20%	23%	22%	19%	16%	221	40%	14%	3%

Table 67: Agreement with statements regarding fees broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Statement	Valid N	Strongly disagree 1	2	3	4	Strongly agree 5	Preferred measure of country size			
								Valid N among agreement level 3 -5	Gross Domestic Product	Population	Other
Electricity	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	177	6%	13%	16%	13%	51%				
		178	20%	16%	21%	23%	20%				
		178	13%	17%	23%	17%	30%	125	48%	18%	0%
Organic Chemistry	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	164	6%	13%	25%	22%	34%				
		163	7%	19%	12%	20%	42%				
		164	5%	17%	21%	30%	28%	129	59%	13%	3%
Inorganic Chemistry	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	156	8%	10%	14%	23%	45%				
		156	12%	17%	21%	25%	26%				
		154	19%	24%	16%	22%	19%	89	45%	17%	1%
ICT	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	104	2%	11%	11%	15%	62%				
		105	15%	24%	37%	14%	10%				
		105	8%	4%	36%	26%	27%	93	54%	22%	0%
Traditional	In terms of administration, it is burdensome to pay the national renewal fee for each European country separately The existing system with separate national renewal fees is advantageous to us because we can choose between different European countries The level of national renewal fees should be linked to the size of a country in Europe	383	10%	10%	26%	19%	36%				
		385	15%	13%	21%	23%	27%				
		387	17%	18%	24%	26%	16%	255	41%	20%	4%

Table 68: Agreement with statements regarding fees broken down by mega cluster – Random group (weighted)

13.3 Importance of factors relating to decision to drop a European patent after grant

The question was:

e) *How important are the following factors to your decision to drop a patent in a European country after grant?*

Table 69 to **Table 73** display the results for question e) of Section D of this year's questionnaire (**Annex I**).

The results here suggest that internal and external administrative costs are important for applicants in general in the decision to drop a patent in a European country after grant, but not for members of the Biggest group. This is consistent with the results in Section 13.2. The level and the progression of the national renewal fees, on the other hand, play an important role in the decision to drop a patent for many respondents, including the members of the Biggest group.

Biggest group

Residence Bloc	Factor	Valid N	Not important at all 1	2	3	4	Very important 5	At least some importance 3-5
Total	Level of national renewal fees	154	5%	19%	20%	30%	25%	75%
	Progression of national renewal fees	154	6%	18%	20%	34%	22%	77%
	In-house administrative cost linked to the payment of national renewal fees	153	39%	38%	15%	5%	3%	23%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	147	40%	29%	20%	8%	2%	31%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	152	36%	32%	21%	9%	2%	32%
EP	Level of national renewal fees	82	7%	22%	24%	29%	17%	71%
	Progression of national renewal fees	83	10%	18%	23%	30%	19%	72%
	In-house administrative cost linked to the payment of national renewal fees	82	52%	35%	9%	2%	1%	12%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	80	49%	26%	14%	8%	4%	25%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	80	44%	33%	14%	6%	4%	24%
JA	Level of national renewal fees	59	2%	15%	14%	34%	36%	83%
	Progression of national renewal fees	58	2%	16%	14%	45%	24%	83%
	In-house administrative cost linked to the payment of national renewal fees	58	21%	40%	24%	9%	7%	40%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	54	28%	33%	28%	11%	0%	39%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	59	25%	32%	29%	14%	0%	42%
OT	Level of national renewal fees	-						
	Progression of national renewal fees	-						
	In-house administrative cost linked to the payment of national renewal fees	-						
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	-						
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	-						
US	Level of national renewal fees	13	8%	23%	23%	15%	31%	69%
	Progression of national renewal fees	13	0%	23%	31%	15%	31%	77%
	In-house administrative cost linked to the payment of national renewal fees	13	38%	46%	15%	0%	0%	15%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	13	38%	31%	31%	0%	0%	31%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	13	38%	23%	31%	8%	0%	38%

Table 69: Importance of factors relating to decision to drop a European patent broken down by residence bloc – Biggest group

Random group
Unweighted

Residence Bloc	Factor	Valid N	Not important at all 1	2	3	4	Very important 5	At least some importance 3-5
Total	Level of national renewal fees	643	8%	15%	21%	30%	27%	78%
	Progression of national renewal fees	641	8%	15%	23%	31%	23%	77%
	In-house administrative cost linked to the payment of national renewal fees	635	39%	29%	20%	8%	3%	31%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	625	27%	24%	22%	19%	8%	49%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	613	31%	26%	22%	15%	6%	43%
EP	Level of national renewal fees	405	9%	16%	24%	29%	22%	75%
	Progression of national renewal fees	404	10%	16%	25%	29%	21%	74%
	In-house administrative cost linked to the payment of national renewal fees	399	47%	29%	15%	7%	2%	24%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	393	31%	25%	18%	18%	8%	44%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	378	36%	27%	17%	12%	7%	37%
JA	Level of national renewal fees	150	4%	12%	18%	33%	33%	84%
	Progression of national renewal fees	149	4%	14%	21%	38%	23%	82%
	In-house administrative cost linked to the payment of national renewal fees	149	16%	32%	31%	15%	6%	52%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	145	19%	25%	30%	20%	6%	56%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	147	20%	27%	33%	17%	3%	53%
OT	Level of national renewal fees	23	9%	26%	9%	26%	30%	65%
	Progression of national renewal fees	23	9%	17%	30%	30%	13%	74%
	In-house administrative cost linked to the payment of national renewal fees	23	48%	17%	26%	4%	4%	35%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	23	26%	13%	17%	35%	9%	61%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	23	26%	13%	17%	35%	9%	61%
US	Level of national renewal fees	65	6%	8%	14%	32%	40%	86%
	Progression of national renewal fees	65	5%	8%	14%	34%	40%	88%
	In-house administrative cost linked to the payment of national renewal fees	64	39%	33%	20%	3%	5%	28%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	64	27%	19%	28%	19%	8%	55%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	65	29%	20%	29%	15%	6%	51%

Table 70: Importance of factors relating to decision to drop a European patent broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence Bloc	Factor	Valid N	Not important at all 1	2	3	4	Very important 5	At least some importance 3-5
Total	Level of national renewal fees	643	7%	15%	20%	28%	30%	78%
	Progression of national renewal fees	641	8%	13%	24%	32%	22%	79%
	In-house administrative cost linked to the payment of national renewal fees	635	36%	26%	24%	10%	4%	38%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	625	17%	17%	25%	30%	11%	66%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	613	19%	22%	26%	24%	10%	59%
EP	Level of national renewal fees	405	8%	15%	20%	27%	30%	77%
	Progression of national renewal fees	404	10%	15%	24%	26%	25%	76%
	In-house administrative cost linked to the payment of national renewal fees	399	42%	25%	17%	13%	4%	34%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	393	19%	24%	21%	24%	12%	57%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	378	27%	25%	21%	17%	11%	48%
JA	Level of national renewal fees	150	7%	5%	32%	34%	23%	88%
	Progression of national renewal fees	149	7%	10%	27%	42%	13%	83%
	In-house administrative cost linked to the payment of national renewal fees	149	22%	24%	36%	14%	3%	54%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	145	24%	19%	31%	22%	5%	57%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	147	21%	29%	34%	13%	3%	50%
OT	Level of national renewal fees	23	9%	32%	8%	24%	28%	60%
	Progression of national renewal fees	23	9%	23%	30%	37%	2%	68%
	In-house administrative cost linked to the payment of national renewal fees	23	40%	22%	29%	7%	1%	37%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	23	12%	9%	26%	46%	8%	79%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	23	5%	15%	27%	44%	8%	79%
US	Level of national renewal fees	65	5%	4%	24%	31%	36%	91%
	Progression of national renewal fees	65	5%	4%	16%	41%	34%	91%
	In-house administrative cost linked to the payment of national renewal fees	64	24%	32%	34%	4%	6%	44%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	64	15%	6%	33%	34%	12%	79%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	65	13%	18%	32%	26%	11%	69%

Table 71: Importance of factors relating to decision to drop a European patent broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Factor	Valid N	Not important at all 1	2	3	4	Very important 5	At least some importance 3-5
Electricity	Level of national renewal fees	181	6%	15%	22%	32%	25%	78%
	Progression of national renewal fees	181	4%	14%	27%	31%	23%	82%
	In-house administrative cost linked to the payment of national renewal fees	181	35%	29%	25%	6%	4%	36%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	173	23%	25%	27%	17%	7%	51%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	172	27%	28%	28%	12%	5%	45%
Organic Chemistry	Level of national renewal fees	164	8%	16%	23%	27%	25%	76%
	Progression of national renewal fees	164	8%	19%	23%	27%	23%	73%
	In-house administrative cost linked to the payment of national renewal fees	160	36%	36%	19%	8%	2%	28%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	159	25%	28%	20%	21%	6%	48%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	155	30%	31%	23%	11%	5%	39%
Inorganic Chemistry	Level of national renewal fees	155	9%	14%	25%	30%	23%	77%
	Progression of national renewal fees	153	8%	18%	26%	27%	21%	74%
	In-house administrative cost linked to the payment of national renewal fees	154	45%	26%	21%	5%	2%	29%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	151	33%	25%	21%	15%	5%	42%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	149	36%	31%	23%	8%	3%	34%
ICT	Level of national renewal fees	106	3%	16%	18%	32%	31%	81%
	Progression of national renewal fees	106	3%	16%	22%	35%	25%	81%
	In-house administrative cost linked to the payment of national renewal fees	106	35%	36%	23%	4%	3%	29%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	101	25%	22%	26%	24%	4%	53%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	102	27%	32%	26%	13%	1%	40%
Traditional	Level of national renewal fees	383	8%	13%	21%	32%	26%	79%
	Progression of national renewal fees	383	7%	15%	24%	32%	21%	78%
	In-house administrative cost linked to the payment of national renewal fees	378	39%	29%	20%	9%	3%	32%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	371	27%	24%	22%	19%	8%	49%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	361	30%	26%	24%	14%	6%	44%

Table 72: Importance of factors relating to decision to drop a European patent broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Factor	Valid N	Not important at all 1	2	3	4	Very important 5	At least some importance 3-5
Electricity	Level of national renewal fees	181	6%	18%	14%	24%	39%	76%
	Progression of national renewal fees	181	6%	13%	27%	27%	28%	82%
	In-house administrative cost linked to the payment of national renewal fees	181	33%	28%	27%	7%	5%	39%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	173	13%	20%	31%	22%	14%	68%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	172	17%	23%	24%	20%	16%	60%
Organic Chemistry	Level of national renewal fees	164	9%	16%	21%	23%	30%	75%
	Progression of national renewal fees	164	9%	14%	19%	27%	31%	77%
	In-house administrative cost linked to the payment of national renewal fees	160	41%	30%	14%	10%	5%	29%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	159	10%	24%	25%	34%	7%	66%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	155	18%	24%	38%	14%	6%	58%
Inorganic Chemistry	Level of national renewal fees	155	6%	10%	23%	31%	31%	85%
	Progression of national renewal fees	153	8%	14%	15%	34%	28%	78%
	In-house administrative cost linked to the payment of national renewal fees	154	43%	21%	25%	7%	3%	35%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	151	24%	13%	29%	20%	14%	63%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	149	26%	20%	32%	15%	7%	54%
ICT	Level of national renewal fees	106	1%	25%	18%	32%	24%	74%
	Progression of national renewal fees	106	1%	18%	22%	40%	19%	81%
	In-house administrative cost linked to the payment of national renewal fees	106	26%	34%	39%	1%	0%	40%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	101	10%	9%	24%	56%	1%	81%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	102	12%	25%	33%	30%	0%	63%
Traditional	Level of national renewal fees	383	6%	14%	21%	31%	29%	81%
	Progression of national renewal fees	383	6%	14%	23%	37%	19%	80%
	In-house administrative cost linked to the payment of national renewal fees	378	34%	24%	28%	11%	4%	42%
	Administrative cost for external attorney (if involved) linked to the payment of national renewal fees	371	19%	19%	25%	28%	9%	62%
	Administrative cost for service provider (if involved) linked to the payment of national renewal fees	361	19%	24%	26%	22%	10%	57%

Table 73: Importance of factors relating to decision to drop a European patent broken down by mega cluster – Random group (weighted)

14 Annex VIII: Estimating birth & death effects in the applicant population

The method that is used to calculate correction factors was explained in Annex VIII of the 2007 survey report (with a revision in Annex X of the 2008 survey report). The data that were used in this survey are from database information in March 2010. As last year, Euro-direct applications that can be identified as divisionals were excluded from the counts.

The calculation is shown for Total filings (ED + Euro-PCT-RP). The following table describes the carryover of all applicants (filers) for Total filings from each year to all others considered in the period.

Recurrent applicants (excluding divisionals) for		Total filings (Euro-direct + Euro-PCT-RP)							
		Also filed in							
		2002	2003	2004	2005	2006	2007	2008	2009
Filers in	2002	<u>31 110</u>	10 592	9 694	8 527	7 581	6 743	5 905	4 719
	2003	10 592	<u>32 757</u>	11 291	9 913	8 888	7 849	6 820	5 501
	2004	9 694	8 527	<u>33 645</u>	11 447	10 233	8 943	7 774	6 102
	2005	8 527	9 913	11 447	<u>34 554</u>	11 738	10 382	8 985	7 026
	2006	7 581	8 888	10 233	11 738	<u>36 496</u>	12 499	10 756	8 352
	2007	6 743	7 849	8 943	10 382	12 499	<u>38 653</u>	13 070	9 996
	2008	5 905	6 820	7 774	8 985	10 756	13 070	<u>40 696</u>	12 682
	2009	4 719	5 501	6 102	7 026	8 352	9 996	12 682	<u>39 221</u>

A similar table can be made to show the numbers of applications (filings) that were made in each case by the re-filers and pre-filers.

Recurrent applications (excluding divisionals)		Total filings (Euro-direct + Euro-PCT-RP)							
		Also filed in							
		2002	2003	2004	2005	2006	2007	2008	2009
Filings in	2002	<u>102 847</u>	76 827	73 558	69 327	64 657	60 042	56 253	48 748
	2003	83 178	<u>112 348</u>	84 957	80 393	75 610	71 017	66 520	58 011
	2004	83 570	89 254	<u>118 596</u>	89 887	85 283	79 585	74 438	65 318
	2005	81 476	86 812	92 178	<u>122 873</u>	93 217	87 877	82 418	72 322
	2006	76 699	82 145	87 177	94 724	<u>128 883</u>	97 399	91 468	80 026
	2007	69 462	75 300	79 105	87 110	97 683	<u>134 469</u>	100 413	88 319
	2008	61 983	66 918	70 977	77 517	87 448	98 780	<u>139 301</u>	99 468
	2009	44 071	48 020	51 380	57 213	65 139	74 259	88 908	<u>127 907</u>

The following table shows the numbers of applications (filings) that are made by applicants in the test year who did not file in the base year.

Non recurrent applications (excluding divisionals)		Total filings (Euro-direct + Euro-PCT-RP)							
		Did not file in							
		2002	2003	2004	2005	2006	2007	2008	2009
Filings in	2002	<u>0</u>	26 020	29 289	33 520	38 190	42 805	46 594	54 099
	2003	29 170	<u>0</u>	27 391	31 955	36 738	41 331	45 828	54 337
	2004	35 026	29 342	<u>0</u>	28 709	33 313	39 011	44 158	53 278
	2005	41 397	36 061	30 695	<u>0</u>	29 656	34 996	40 455	50 551
	2006	52 184	46 738	41 706	34 159	<u>0</u>	31 484	37 415	48 857
	2007	65 007	59 169	55 364	47 359	36 786	<u>0</u>	34 056	46 150
	2008	77 318	72 383	68 324	61 784	51 853	40 521	<u>0</u>	39 833
	2009	83 836	79 887	76 527	70 694	62 768	53 648	38 999	<u>0</u>

The modified correction factor (CF') for a future year is given as

$$CF' = \frac{(\# \text{ applications year } i+j \text{ from applicants that did not file in year } i) - ((\# \text{ applications year } i \text{ from applicants that did not file in year } i+j) \times ((\# \text{ applications in year } i+j \text{ in population})/(\# \text{ applications in year } i \text{ in population})))}{(\# \text{ applications in year } i+j \text{ in population})}$$

In principle, these correction factors can be used to augment the filings forecasts from a survey. However, a problem is that the future CF' values are not yet known when a survey is run. Therefore, it is suggested that CF's should be used retrospectively. The most recently available 1 year ahead CF' is taken as the 1 year CF' for future projection, the most recently available 2 year ahead CF' is taken as the 2 year CF' for future projection, etc. The resulting sets of CFs are collected in the following table (which tracks data back to Survey Year 2001).

Applicant Panel correction factors

Survey Year	Base Year	Correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
		Survey Year	Survey Year + 1	Survey Year + 2
2001	2000	837	2 164	4 840
2002	2001	1 011	2 025	3 499
2003	2002	750	1 483	2 296
2004	2003	746	1 138	2 166
2005	2004	428	1 252	1 119
2006	2005	1 210	1 112	1 350
2007	2006	3 052	5 570	4 593
2008	2007	3 937	9 060	10 546
2009	2008	5 241	11 414	15 920
2010	2009	2 424	9 750	14 281

Here italicised numbers from older years were taken over from the previous 2009 survey report. Otherwise it should be noted that this table differs to some extent from the analogous table that was presented in Annex VIII of the 2009 survey report, because of slight database variations since then.

However, it must be recognised that the method described for creating correction factors depends on taking historical developments as a way to project into the future. In 2009, there was a clear disturbance in the system in that the number of filings decreased compared to 2008, unlike recent years where continuous growth was experienced. The only previous year in recent history where filings declined was 2002 compared to 2001. Therefore, it is relevant to compare calculated correction factors with out-turns in order to assess the usability of the system, in particular, taking account of forecasts made in survey year 2001 for 2001, 2002 and 2003.

The following table calculates forward correction factors as experienced beyond base years due to the subsequent out-turns. Obviously, data is missing on this for the most recent surveys. Since the out-turns already take account of the growth of the overall number of

applications in the population, the forward correction factors are calculated without the population growth terms.

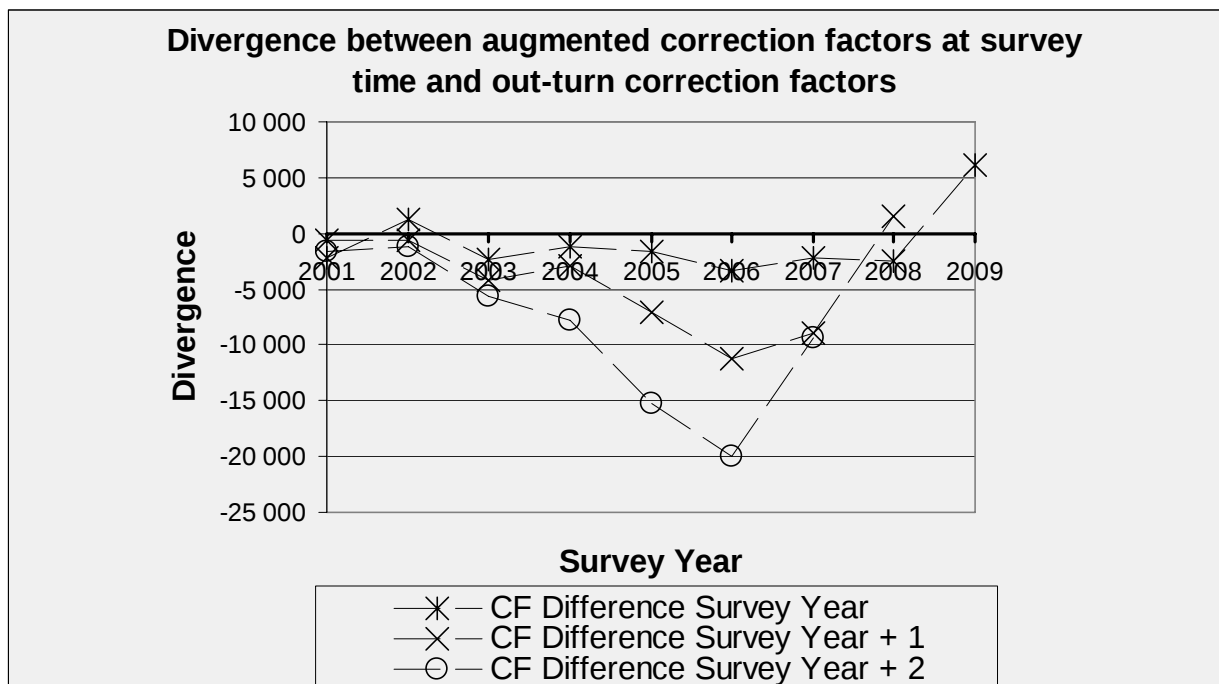
$$CF_{\text{forward}} = (\# \text{ applications year } i+j \text{ from applicants that did not file in year } i) -$$

(# applications year i from applicants that did not file in year $i+j$)

Survey Year	Base Year	Forward correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
		Survey Year	Survey Year + 1	Survey Year + 2
2001	2000	3 087	2 707	6 437
2002	2001	-293	2 648	4 744
2003	2002	3 150	5 737	7 877
2004	2003	1 951	4 106	10 000
2005	2004	1 986	8 393	16 353
2006	2005	4 503	12 363	21 329
2007	2006	5 302	14 438	13 911
2008	2007	6 465	7 498	NA
2009	2008	-834	NA	NA
2010	2009	NA	NA	NA

Here again, italicised numbers from older years were taken over from the previous 2009 survey report.

The following graph shows the deviations between the applicant panel correction factors given earlier and the forward correction factors seen later in the out-turns.



Generally speaking, the divergences are negative, that is the correction factors have underestimated the balance of applications coming from new applicants compared to the drop-out of old applicants. The correction factors for the survey years seem to be fairly accurate and the only real mark of the downturns in 2002 and 2009 are the positive values for the survey year divergence. The survey year + 1 divergence was a little out at about -10 000 in 2006 but then swung back to almost zero in 2008. The survey year + 2 divergence, however, behaved quite badly with severe underestimates down to -20 000 from 2004 to 2006 (a period of renewed rapid growth) swinging back from 2008 onwards during the recent downturn.

This year's graph supports the same conclusion that was reached in Annex VIII of the 2009 survey report. The Survey year correction factor can be used with confidence even though the current severe downturn has led to a positive divergence of about 6 000. The survey year + 2 correction factor can show a large divergence that probably indicates lack of precision in forecasting ability from the survey 2 years ahead in general. The survey year + 1 correction factor can be used with more confidence but is also liable to swings. This suggests adding 2 424 to the recommended forecasts for 2010 to give $(206\,269 + 2\,424 =) 208\,693$; and 9 750 to the recommended forecasts for 2011 to give $(219\,738 + 9\,750 =) 229\,488$. But in the current situation, it may still be advisable not to use correction factors at all until the system calms down again.

15 Annex IX: Experimental analysis of the Random group using respondent-based weights

This Annex is an update of Annex XI of the 2009 survey report.

The established method that is used in this report to analyse the Random group involves Poisson weights that take account of the probability of inclusion of the respondent within the sample asked, as measured via the number of filings made in the base year according to the EPO database²⁶.

The Poisson weight for each respondent is calculated as

$$q_i = \frac{A_i}{1 - e^{-n^+ \left(\frac{A_i}{A}\right)}}$$

where n^+ is the number of extractions made for sampling purposes, A is the total number of recorded filings in the base year, and A_i is the known number of applications made by the i -th sampled applicant in the base year²⁷.

In this weighting scheme, A_i comprises database records of Euro-direct filings + Euro-PCT-RP filings. As can be seen in Annex I, the respondents give their own estimates of base-year filings in Section B of the questionnaire. This is the sum of Euro-direct filings for 2009 in question B(a) and Euro-PCT-RP filings for 2009 in question B(l).

Here the reported base-year filings total by the respondent is substituted for the previously used database count in the term A_i . A full set of analogous response tables for the Random group analyses was generated and **Table 74** (compare with **Table 1**) and **Table 75** (compare with **Table 2**) show the summary results for these forecast methods using respondent-based Poisson weights.

Comparison of forecasts: Growth from 2009
Euro-direct and PCT-IP

Group	Breakdown	Year					
		2010		2011		2012	
		Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Biggest	None	-1.7%		2.8%		4.7%	
Biggest	Residence bloc	-3.3%		2.0%		3.9%	
Random	None	-1.7%	2.6%	6.3%	2.7%	8.6%	3.1%
Random	None (winsorized)	-1.6%	2.3%	6.2%	2.4%	8.6%	2.8%
Random	None (Euro-direct and PCT-IP filings combined)	-0.5%	2.3%	4.8%	2.6%	7.0%	2.8%
Random	None (including companies with comments)	-3.0%	3.3%	6.8%	3.1%	9.1%	3.2%
Random	Residence bloc	-1.9%	4.3%	9.1%	5.3%	12.7%	6.9%
Random	Residence bloc (winsorized)	-1.7%	4.2%	9.3%	5.1%	13.0%	6.7%
Random	Residence bloc (ED and PCT-IP filings combined)	-0.6%	3.1%	7.1%	6.6%	12.3%	10.3%
Random	Residence bloc (including companies with comments)	-2.8%	4.4%	10.5%	5.4%	13.4%	6.8%
Biggest	EPO mega cluster	-1.3%		2.6%		4.5%	
Random	EPO mega cluster	-0.2%	2.8%	7.3%	3.0%	10.7%	3.4%
Random	EPO mega cluster and residence bloc	-4.0%	5.0%	7.8%	7.6%	12.2%	8.3%

*) **Deviation** corresponds to the distance from the forecasted filings to the lower 95% confidence limit (as % of the forecasted filings)

Table 74: Predicted growth rates for Euro-direct and PCT-IP filings by forecasting method using respondent-based Poisson weights

²⁶ See Applicant Panel Survey 2001 report: Annex III; and Applicant Panel Survey 2002 report: Section IV.1, Annex IV.

²⁷ For the 2010 survey, $A = 134\,274$, $n^+ = 4\,400$.

Comparison of forecasts: Predicted total filings
Euro-direct and PCT-IP
LCL/UCL indicates lower/upper 95% confidence limit

		Year								
		2010			2011			2012		
Group	Breakdown	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Biggest	None	201 136			210 322			214 193		
Biggest	Residence bloc	197 865			208 714			212 664		
Random	None	201 097	195 846	206 348	217 416	211 620	223 211	222 229	215 448	229 009
Random	None (winsorized)	201 391	196 693	206 088	217 213	211 960	222 466	222 216	215 970	228 461
Random	None (Euro-direct and PCT-IP filings combined)	203 624	198 871	208 378	214 416	208 915	219 917	218 948	212 719	225 176
Random	None (including companies with comments)	198 498	191 882	205 113	218 612	211 899	225 325	223 213	216 038	230 388
Random	Residence bloc	200 752	192 206	209 298	223 182	211 264	235 101	230 505	214 659	246 351
Random	Residence bloc (winsorized)	201 126	192 771	209 482	223 714	212 242	235 187	231 112	215 713	246 511
Random	Residence bloc (ED and PCT-IP filings combined)	203 406	197 202	209 610	219 055	204 490	233 620	229 764	206 143	253 385
Random	Residence bloc (including companies with comments)	198 970	190 168	207 772	226 101	213 916	238 286	232 000	216 164	247 837
Biggest	EPO mega cluster	201 952			209 834			213 877		
Random	EPO mega cluster	204 108	198 491	209 005	219 471	212 796	225 426	226 552	218 924	233 346
Random	EPO mega cluster and residence bloc	196 487	186 566	206 408	220 464	203 730	237 198	229 486	210 345	248 626
Actual Filings		212 896								

Table 75: Predicted total numbers of Euro-direct and PCT-IP filings by forecasting method using respondent-based Poisson weights

In terms of the preferred estimation method this year, **Table 76** depicts the forecast using respondent-based Poisson weights (see **Table 9** for comparison).

Random group (excluding critical comments)
No subsidiary breakdown
Q-Indices
Euro-direct and Euro-PCT-IP filings combined

S.E. indicates standard error of logarithm
LCL/UCL indicates lower/upper 95% confidence limit
Deviation in % of forecast means (predicted filings - LCL)/predicted filings

			Year															
			2009		2010				2011				2012					
Filing type	Filing route	Res. bloc	Actual filings	Cases 10	Q-index 10	S.E. 10	Predicted filings	Actual filings	Cases 11	Q-index 11	S.E. 11	Predicted filings	Cases 12	Q-index 12	S.E. 12	Predicted filings		
First	All	Total	31 934	152	1.0942	0.0372	34 943	33 038	142	1.1249	0.0456	35 921	133	1.2058	0.0457	38 505		
		LCL					32 393					32 704				35 048		
		UCL					37 493					39 139				41 962		
Subsequent	All	Total	172 666	304	0.9769	0.0121	188 681	179 858	285	1.0338	0.0128	178 485	274	1.0450	0.0146	180 442		
		LCL					164 669					174 033				175 252		
		UCL					172 693					182 956				185 623		
Grand total		Total	204 600				203 624	212 896				214 416				218 948		
		LCL					198 871				208 915				212 719			
		UCL					208 378				219 917				225 177			
Growth from 2009						-0.5%	4.1%				4.9%				7.0%			
Deviation in % of forecast						2.3%		4.1%				2.6%				2.8%		

Table 76: Forecasts for EPO filings – Random group with no subsidiary breakdown (Euro-direct and PCT-IP filings combined) using respondent-based Poisson weights

In general, forecasts using respondent-based Poisson weights give deviations that are somewhat lower than with the traditional method. This is to be expected in the sense that sizes of entities that are identified by the database may not correspond exactly to the sizes of respondent companies. This can be either because of responses given for larger or smaller company parts (allowed for at the beginning of the questionnaire), because the respondent has applied for EPO patents under several different names that appear distinct in the database, or because either or both the database and the respondent do not have full up-to-date information on the exact number of base-year filings. However, the new sampling scheme used for the Random group in the current survey may tend to select applicants apparently making larger numbers of filings due to the amalgamation of companies with effectively the same names, even if they have completely different applicant codes. This may explain why the discrepancy between results using database weights and using respondent weights is somewhat smaller in this survey than in the previous one.

On the whole, respondents tend to reply on behalf of larger entities than those identified from the database. This has a favourable effect in terms of the relatively large coverage percentage of the application population by responses as shown in **Annex X**. Thus, respondent weighting may be allocating more nearly correct weights in connection with applicant sizes than traditional weighting does. It is known that growth indices from smaller applicants are more variable than those from large applicants, and these may generally be more downweighted in the respondent weighting scheme.

However, even though these results are interesting, it is not considered particularly safe to move to a respondent weighting scheme for regular use in the future filings surveys. The traditional weights retain an essential relationship with the sampling scheme that is used on the database, thus justifying calculation of finite population corrections and standard error terms, etc.

16 Annex X: Sizes of Populations and Samples for the 2010 EPO Future Filings Survey

	Euro-applications in 2009 ^{\$}					Euro-applicants in 2009 ^{\$}				
	Direct	PCT IP#	Total (Direct + PCT IP#)	PCT RP	Total (Direct + PCT RP)	Direct	PCT IP#	Total (Direct + PCT IP#)	PCT RP	Total (Direct + PCT RP)"
1. Population in 2009*	55 956	147 783	203 739	78 610	134 566					33 890
Sample group A: Biggest										
2. Number asked*	25 837	25 733	51 570	32 556	58 393	423	397	438	414	440
as percentage of 1.	46.2%	17.4%	25.3%	41.4%	43.4%					1.3%
Number of quantitative responses (questionnaires	15 339	26 145	41 484	14 642	29 981	149	162	170	150	171
as percentage of 1.	27.4%	17.7%	20.4%	18.6%	22.3%					0.5%
as percentage of 2.	59.4%	101.6%	80.4%	45.0%	51.3%	35.2%	40.8%	38.8%	36.2%	38.9%
Sample group B: Random										
3. Number asked*	31 090	31 409	62 499	39 556	70 646	1 633	1 313	2 025	2 041	2 632
as percentage of 1.	55.6%	21.3%	30.7%	50.3%	52.5%					7.8%
Number of quantitative responses (questionnaires	19 395	32 624	52 019	17 868	37 263	545	561	702	555	707
as percentage of 1.	34.7%	22.1%	25.5%	22.7%	27.7%					2.1%
as percentage of 3.	62.4%	103.9%	83.2%	45.2%	52.7%	33.4%	42.7%	34.7%	27.2%	26.9%

^{\$} Including for divisionals

* From the EPO database (EPASYS), applications status March 2010

At present information on PCT-IP filings enters the data more than one year late and is therefore undercounted here.

" based on a list of semi-harmonised applicant names



Synovate GmbH

Elektrastraße 6
81925 Munich
Germany

Phone +49-89-99 600-110
Fax +49-89-99 600-199

Member of Arbeitskreis Deutscher
Markt- und Sozialforschungsinstitute e.V.

www.synovate.com/germany