European Patent Office

PATENT FILINGS SURVEY 2013

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

Munich, April 2014

EXECUTIVE SUMMARY

- The forecasts and further analyses documented in this report originate from the results of the most recent annual Patent Filings Survey, carried out in the middle of 2013. The forecasts that are made for EPO Total filings exclude divisional filings.

- Based on this survey, Total filings growth at the European Patent Office for **2013** was estimated to be **+1.7%** versus **2012** filings.

- The survey forecast predicted **252 305** Total filings for 2013, compared to **258 090** actual Total filings in **2013**. This forecast is in fair agreement with the growth rate of **+4.0%** actually observed from **2012** to **2013**.

- Estimated errors associated with one-year growth forecasts are slightly higher this year than in the previous two years. Estimated errors for two and three-year growth are in line with estimated errors previously observed.

- The underestimation of actual growth from 2012 to 2013 is more substantial than last year, but actual growth is still within the 95% confidence limits of the survey estimate.

- Broken down by residence blocs, applicants from the EP and US residence blocs were particularly conservative with respect to growth expectations for 2013.

- For **2014**, the survey predicts **+7.6%** versus **2012** (+5.8% year-on-year), resulting in **266 948** Total filings at the EPO.

- For **2015**, the final year for which a forecast was made, **+10.3%** growth versus **2012** has been forecast (+2.5% year-on-year), resulting in **273 621** filings.

- The estimate for growth of PCT applications entering the regional phase at EPO was negative in the short term (**-2.1%** in **2013**), with a return to positive growth predicted for the following years **(+9.0%** in **2014**, and **+15.4%** in **2015, both vs. 2012**). However, growth estimates from the Biggest group were more positive.

- Based on this survey, worldwide first filings were estimated to grow by **+2.9%** from 2012 to 2013, to be followed by **+9.3%** growth from **2012** to **2014** (+6.2% year-on-year) and **+13.4**% growth from **2012** to **2015** (+3.8% year-on-year).

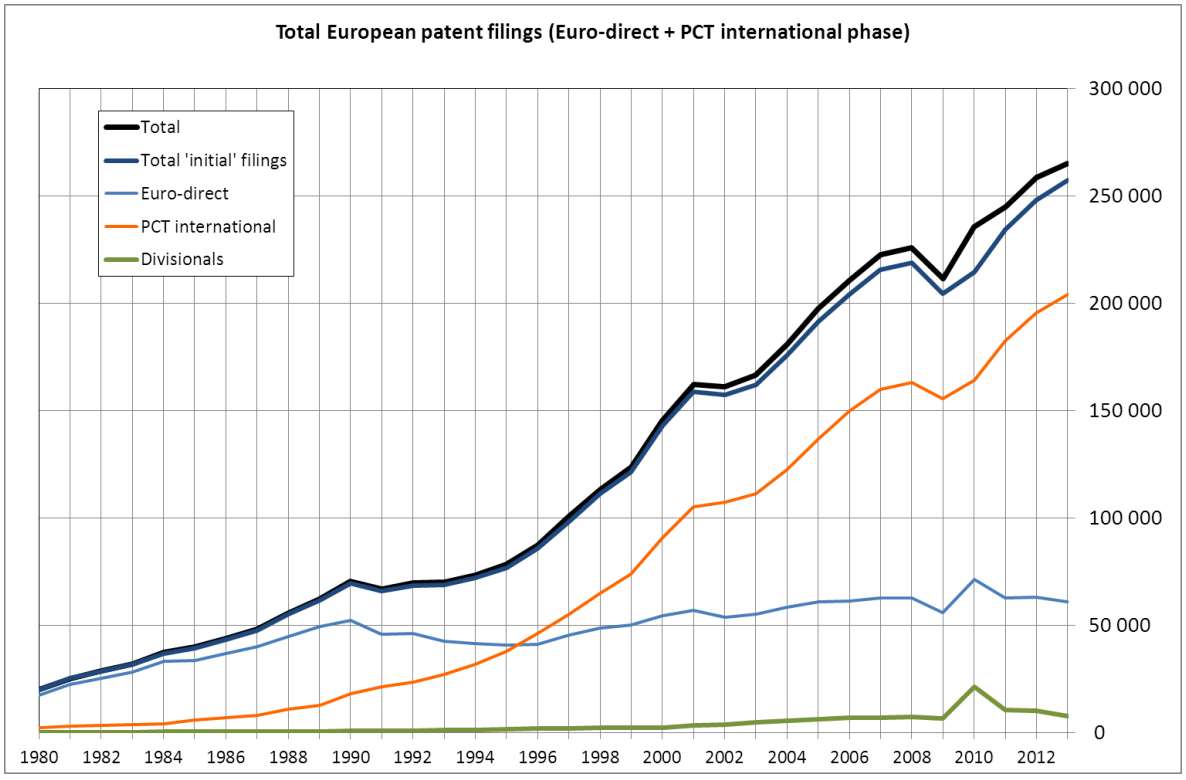
- From other information provided in the survey, an estimate was made that **51%** of EPO applicants are **small and medium-sized enterprises** (SMEs) according to the EU definition (with 95% confidence limits from 41% to 61%). The proportion of **applications originating from SMEs** was estimated at **19%**.

- In an analysis of the concurrent usage of other types of IPRs by EPO applicants, patents were generally rated as more important for business than trademarks, which are in turn themselves more important than registered designs.

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 2013 by the market research firm Ipsos. The main use that is made of the survey at EPO is to provide information on probable filing developments for budgetary planning purposes. Applicants were approached for a Biggest group of about 400 largest clients and a Random group of about 2 800 from the general population, with a random sampling method that preferentially selected larger applicants. The fieldwork period was performed from early May to mid-September 2013. There were 743 responses.

The main forecast items are the numbers of direct European route filings (Euro-direct, excluding divisional filings), PCT international phase filings (PCT-IP), which together represent Total 'initial' filings in the chart below; and Euro-PCT regional phase filings (Euro-PCT-RP). The degree of agreement of the forecasts from previous surveys with the out-turns is assessed. The annexes describe the survey setup; fieldwork experiences and response rates; a collection of comments from participants; analytical methodology; forecasts broken down by technical areas; forecasts for worldwide first filings and for filings at other offices; and a description of respondent profiles including company economic attributes. Analyses are then provided of special questions from the current survey on small and medium-sized enterprise status, growth and characteristics of European patent portfolios, and the relationship of patents to the other types of IP rights trademarks and designs. The final two annexes report on methodological experiments and the sizes of the population and the samples.



This diagram shows that Total filings at the EPO increased in 2013. In the survey, the forecast for 2013 according to the favoured scenario came out a little lower than the

observed total, which nevertheless was within the 95% confidence limits of the forecast. Projections for the number of total filings in 2014 and 2015 are, however, quite positive. The favoured scenario for Total filings involves the Random group of applicants and summation of forecasts broken down by blocs of residence (Europe, Japan, US, Others – see Table 10).

However, when considering the largest applicants only (Biggest group), the forecasts for Total filings broken down by blocs of residence gives a small drop from 2012 to 2013, while forecasts without a residence bloc breakdown are only mildly positive (see Tables 5 and 6). Confidence limits cannot easily be given for the results from the Biggest group. But if it can be assumed that they are of equal width to those for the random group, then the upper confidence limit for the scenario with a residence bloc breakdown does not encompass the observed value. So respondents from the largest applicants, on balance, may have been rather too pessimistic in their short-term filing estimates.

In the EPO commentary to the previous 2012 survey, it was suggested that there was some evidence that US-based respondents may have had difficulty distinguishing between first and subsequent filings, at least in the era before the America Invents Act. Last year, a table was given for a forecast scenario that involved residence bloc breakdowns but combined first and subsequent filings for US residents only, and this gave a slightly better forecast for Total filings at EPO from US residents in 2012 than one separating first and subsequent filings. This year, no such table is shown, but an equivalent comparison of scenarios shows no such similar improvement for 2013. This may indicate an increased awareness of the distinction between first and subsequent filings from US-based respondents, although statistical significance cannot be asserted.

Regarding Euro-PCT-RP filings, which are analysed separately, the growth estimates from 2012 to 2013 are positive, but for the Random group they are lower than the growth that was actually observed, while for the Biggest group they are higher than was observed (see Tables 20 and 23). Why do the smaller companies on average report less future usage of Euro-PCT-RP than the biggest ones? It is possible that the smaller applicants in the Random group may not have enough knowledge about their business horizons to be very optimistic about growth in their Euro-PCT-RP filings, even though it may turn out that they do make them later on. The smaller entities are also dynamic, and new applicants that are not considered in the survey may enter the population to make Euro-PCT-RP filings later on.

For all methods, it appears that the forecasts for EPO filings for 2013 in the previous 2012 survey are closer to the out-turns than the new forecasts are for this survey. This could be because of the effects suggested above, or else perhaps due to a general lack of optimism about economic developments during the fieldwork period of the present survey (from May to October 2013). One may remark that agencies such as the IMF have recently increased their GDP growth forecasts from lower forecasts that they had made in the second half of 2013.

In Annex V, worldwide first filings growth is predicted. Results also appear for questions on filings at specific national patent offices. Here, a theme is continuing rapid growth of first filings applications at the Chinese Office (SIPO) by EPO's applicants (see Table 51). There is also some indication of growth at the UK Office in the wake of recent "patent box" corporation tax legislation to benefit patent applicants.

Wherever practical, statistics are given in the report with breakdowns by main technical areas (called mega clusters) and by blocs of residence of the applicants. One feature is the larger average size of the companies responding from Japan and their higher response rate. This manifests itself in the statistics that relate to company sizes, including a higher participation by these respondents in successive surveys (see Table 27).

In Annex VI, there are analyses of respondents' profiles in terms of a bank of regular questions, including those on R&D expenditures and numbers of first filings broken down by residence blocs and mega clusters (see Tables 62 and following). Many of the questions did not change between the last two annual surveys and this one, which allows for survey-to-survey reproducibility to be checked. A new topic this year is the proportion of overall R&D expenditure spent specifically on activities that might lead to patent filings, for which the weighted mean estimate is 37% and the weighted median is 30%. In order to improve comparability between weighted and unweighted tables, this year the sums of weights are restricted to add up to the same overall sample size as in the unweighted displays, although their agreement cannot be exact for technical reasons.

The theme of sizes of EPO's applicants is explored again this year via a question to elicit the status of applicants with respect to being small and medium-sized enterprises (SMEs), in terms of the European Union definition. SMEs are generally private enterprises, but the calculated proportions relate to all EPO applicants, including public research agencies and universities. As shown in Tables 62, 64, and 66, a weighted estimate of the **proportion of SMEs among applicants** from the Random group is 51%. The estimate is somewhat less than an estimate of 61% for applicants with less than 250 employees (see Figure 16), which is to be expected because the criteria for an SME are stricter than a limit on numbers of employees. The estimated proportions of SMEs vary between residence blocs and are slightly lower than the estimates in the previous survey, especially for US, although this discrepancy may not be statistically significant. For the first time this year, the **proportion of EPO applications from SMEs** is estimated at 19% in the main report. Again some variations in the proportions are apparent between residence blocs. Regarding differences between mega clusters, Table 66 suggests that there are more differences between proportions of SMEs among applications than between proportions of SMEs among applicants.

In Annex VII, there are analyses of responses to other questions. Questions similar to last year's on European patent portfolios indicate an estimate of the mean proportion of portfolios that were non-existent in 2000 as 52%. The growth rate since 2000 for patent portfolios that did exist then has a median of 220%, but has an even higher mean of 594%. The monetary value of the European patent portfolio for European resident applicants has a median of EUR 500 000 and a mean of EUR 13.5 million, indicating an asymmetric distribution typical of such a company-size-related variable. The importance of European patents in 2012 was given a high rating.

Further new questions targeted the activities of EPO applicants in trademarks and registered designs applications. An estimated mean proportion of 35% of our patent applicants in 2012 also filed for trademarks in 2012 (17% for Community trademark applications at OHIM); and 18% of our patent applicants in 2012 also filed for registered design applications in 2012 (10% for Community registered design applications). Concerning the expected one-year growth rates (from 2012 to 2013) for trademark

applications and for registered design applications, the estimates are for a mean increase in trademark applications of 4% (but a 12% drop in Community trademark applications); and for a decrease of 13% in registered designs applications (and also a 13% drop in Community registered designs). In terms of the ordering of importance of the three kinds of IP rights, and combinations thereof, patents were ranked higher than trademarks that were in turn ranked higher than registered designs. Some small variations in the above results for some residence blocs and main technical areas are remarked on in the report.

We are very grateful to the respondents for providing the data to allow for the various forecasts and estimations in this report. Please participate in this survey if you are approached with a request to do so in the future. We are particularly concerned to try to boost the response rates in further surveys in order to improve the quality and accuracy of the analyses to be reported.

We will be happy to receive your feedback on any of the issues covered in this report. For this, you are welcome to send an e-mail to EPO at the address below.

European Patent Office, Munich **controlling@epo.org**

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1 Introduction

1.1 Background and objectives

Since 1996, the European Patent Office (EPO) has carried out the annual "Patent Filings" (formerly "Future Filings" and "Applicant Panel") survey among a group of its patent applicants. Applicants are surveyed with the main objective of predicting the number of patent filings for the survey year and the following two 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 2013, the eighteenth in the series of surveys took place. The interviews and data collection were undertaken by Ipsos, providing the EPO with the benefit of joint experience previously gained in similar surveys from 2001 to 2012. For the tenth year in succession, Ipsos was also in charge of the data analysis and interpretation in 2013.

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 (EPC[1], Japan, USA, Others). The bloc breakdown may be of special interest when assessing the impact of varying economic environments around the globe. 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. These two objectives remain constant from year to year, but a third objective has been to ask one-off questions on matters of topical interest. In this survey, the opportunity was taken to ask for information on European patent portfolios, relationship of patenting to other kinds of IP rights, and a few other topics.

Data were collected on the basis of 14 joint clusters, corresponding to the structure in which the EPO has organised its search, examination and opposition departments, and then amalgamated into five rather more meaningful "mega clusters".

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 filing 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 2013, 2014, and 2015 based on the recommended forecasting method. **Section 3** summarises forecasts (for Euro-direct and PCT-IP filings) based on two sample groups

[1] European Patent Convention (EPC) contracting states, considered here as at March 2013 with 38 members.

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 the various 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 describes the survey fieldwork methodology 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** reports on forecasting results broken down by mega cluster. **Annex V** provides forecasts for applications at other national patent offices (national filings including worldwide first filings and PCT-NP filings). **Annex VI** provides an overview of the sample composition by the various joint clusters. This Annex also contains summary statistics and analyses respondents based on economic characteristics of EPO applicants in 2012, including year of onset of EPO patenting activities, number of employees, R&D budgets, inventions, first filings, and some ratios including proportions of small and medium-sized enterprises, and the shares of applications filed by SMEs. **Annex VII** reports on additional topics covered in this year's survey, including European patent portfolios and usage of other IPRs for patents. **Annex VIII** gives details on the estimation of possible correction factors based on birth/death effects. Finally, **Annex IX** reports on population sizes and sample sizes underlying the 2013 survey.

1.3 The 2013 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. Sampling for both target groups was based on the raw name of each applicant after capitalising it and the main results for EPO filings were calculated on counts excluding divisional applications.

The total number of applicants involved was 2 827, with most of the Biggest group also appearing in the Random group. The survey responses 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 IX**).

The survey was carried out via telephone and mail interviews with pre-established contact persons. Questionnaires were sent out from the beginning of May 2013, with interviews being completed by mid-September. In total, 743 interviews were completed in 2013.

In the first stage, valid addresses were found for 2 651 of the 2 827 applicants. Contacts were established for 2 132 applicants. The overall response rate in terms of the number of valid addresses was 28.0% (743 out of 2 651), the same as in the previous 2012 survey (27.9%, or 757 out of 2 717) for the same comparisons.

The EPO provided two **gross samples** of applicants drawn from the EPO database of applications (EPASYS) in early 2013.[2]

- "Biggest": This sample comprises the 426 largest applicants and was designed to allow for separate analysis of the intentions of the biggest applicants.

- "Random": This sample includes 2 756 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.

In addition to these two gross samples, EPO also provided two booster samples, one for US that was added to the Random group and one for China that was added to the Biggest group. This was done in order to increase the number of responses for these two important countries. For all analyses, the US boost is included in the Random sample, while the China boost is included in the Biggest sample group.

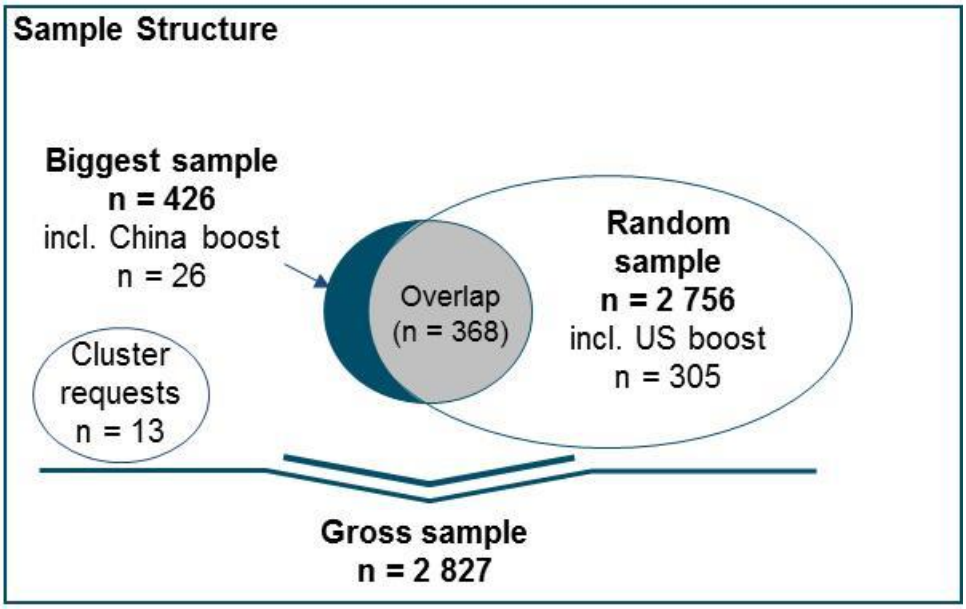


Figure 1: Sample structure of this year's survey

These samples were drawn separately, and the Random and Biggest groups contain an overlap of 368 large applicants that are part of both groups. Without double counting caused by the overlap, the gross sample included a total of 2 827 applicant addresses. Both samples should adequately represent the three regions of Europe, the US, and Japan. Other countries comprise a residual group for the rest of the world. The sampling scheme for the Random group should give Other countries an adequate representation in terms of their number of patent applications to the EPO, except perhaps where there has

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

been fast growth in PCT-IP filings from a low level in the most recent years. US and China were both slightly over-represented in the gross addresses due to the additional boost samples for both countries.

The questionnaire used for data collection was broadly similar to the one used in 2012 (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 2013, 2014, and 2015, itemised by first and subsequent filings, not only at the EPO but also at other main worldwide patent offices. Apart from the main questions on predicting numbers of patent filings, questions 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, worldwide turnover, as well as number of staff that were involved in making inventions, classification into small and medium-sized enterprises (SME), and on European patent portfolio sizes. New questions were added to understand the importance and monetary value of European patents in the portfolio. In addition, details on trademark and registered design filings were collected as well as questions added to understand the relation of patents to trademarks and registered designs.

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

2 Forecast of future patent filings at EPO

All actual and estimated filing totals refer to filings excluding divisional filings[3]. 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 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 reports of this survey prior to 2010.

Based on the recommended forecast method explained in **Section 3**, the estimated growth rates (with respect to 2012) for Total filings excluding divisional filings were calculated as **1.7%** for **2013, 7.6%** for **2014**, and **10.3%** for **2015**. The **overall survey forecast** for Total filings excluding divisionals in **2013** is **252 305,** with approximate 95% confidence limits of **241 921 to 262 689**, resulting in a deviation[4] of 4.1%. This forecast underestimates the currently assumed figure of 258 090 for actual 2013 filings excluding divisionals, but this number is still within the 95% confidence limit of the forecast. The estimated percentage of PCT-IP filings amongst Total filings for 2013 is 78.1%, which is not very far away from the actual value of 79.5%. For **2014**, the recommended forecast method predicts **266 948** Total filings with approximate 95% confidence limits of **255 429 and 278 467.** For **2015**, the recommended method estimates **273 621** Total filings with approximate 95% confidence limits of **258 522 and 288 721**.

As was the case in the previous two years, estimates based on the Biggest group are generally within the range of estimates calculated on the basis of the Random group. Contrary to the Random group estimates, the point estimates based on the Biggest group and employing a residence bloc breakdown this year again predict lower growth than the estimate without further breakdown.

In summary, this year's survey predicts only very modest growth in filing totals for 2013, with a return to stronger growth forecast for 2014 and 2015. However, even the two and three-year growth estimates remain below estimates from the previous survey. In fact, all but the recommended forecast anticipate three-year growth to be less than +10% from 2012 to 2015 (in **Tables 1** and **2** below). Compared to last year, this year's one-year forecasts exhibit slightly higher deviations, while deviations for two and three-year forecasts are similar to last year's. There is generally good agreement between different forecasting approaches within the Random group as well as within the Biggest group.

[3] Divisional filings normally make up a small proportion of Total filings, although a rule change led to more than usual divisional filings in 2010. The survey question on filings at EPO specifically excludes divisional filings in the counts, so divisional filings were excluded from all the actual and predicted filing counts.

[4] Deviation is the distance from the forecast filings number to the lower 95% confidence limit of the forecast as a percentage of the forecast 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 2012) can be estimated at 1.9% in 2013, 10.7% in 2014, and 14.9% in 2015. For the Random group, growth rates can be estimated at -2.1% in 2013, 9.0% in 2014, and 15.4% in 2015. For Euro-PCT-RP filings two and three-year growth estimates based on the Biggest group are generally in fair agreement with the estimates based on the Random group, while one-year growth estimates exhibit a marked distance.

3 Summary of forecasts and comparison with previous Patent Filings Surveys

3.1 Summary of this year's forecasts for Total filings

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 2012
Euro-direct and PCT-IP

			Year					
			2013		2014		2015	
Critical codes	**Group**	**Breakdown**	Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Included	Biggest	None	0.3%		3.8%		6.1%	
Included	Biggest	Residence bloc	-0.8%		2.4%		5.3%	
Included	Random	None	-0.6%	3.1%	6.5%	3.0%	9.7%	3.1%
Included	Random	None (winsorized)	-0.8%	2.5%	5.8%	2.7%	9.3%	2.9%
Included	Random	None (Euro-direct and PCT-IP filings combined)	0.3%	2.9%	6.0%	3.3%	9.2%	3.3%
Included	Random	Residence bloc	1.7%	4.1%	7.6%	4.3%	10.3%	5.5%
Included	Random	Residence bloc (winsorized)	1.3%	3.8%	6.8%	4.0%	9.5%	5.0%
Included	Random	Residence bloc (Euro-direct and PCT-IP filings combined)	0.4%	3.8%	6.2%	4.7%	9.1%	4.6%
Excluded	Biggest	None	0.2%		3.7%		5.9%	
Excluded	Biggest	Residence bloc	-0.3%		3.4%		6.2%	
Excluded	Random	None	-0.9%	3.2%	5.5%	3.0%	8.7%	3.1%
Excluded	Random	None (Euro-direct and PCT-IP filings combined)	-0.2%	3.0%	4.6%	3.3%	7.9%	3.3%
Excluded	Random	Residence bloc	0.7%	4.4%	6.1%	4.0%	8.2%	4.6%
Excluded	Random	Residence bloc (Euro-direct and PCT-IP filings combined)	0.0%	4.1%	5.1%	4.9%	7.5%	4.7%

*) **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 Total filings by forecasting method

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

			Year									
			2013				2014			2015		
Critical codes	**Group**	**Breakdown**	Predicted filings	LCL	UCL	RMSEF*	Predicted filings	LCL	UCL	Predicted filings	LCL	UCL
Included	Biggest	None	248 858				257 570			263 346		
Included	Biggest	Residence bloc	246 210				254 217			261 251		
Included	Random	None	246 758	239 129	254 387	11 982	264 228	256 337	272 119	272 215	263 908	280 522
Included	Random	None (winsorized)	246 126	239 916	252 336	12 377	262 585	255 614	269 556	271 254	263 488	279 020
Included	Random	None (Euro-direct and PCT-IP filings combined)	248 898	241 583	256 214	9 921	262 985	254 371	271 599	271 084	262 102	280 065
Included	Random	Residence bloc	252 305	241 921	262 689	7 844	266 948	255 429	278 467	273 621	258 522	288 721
Included	Random	Residence bloc (winsorized)	251 489	242 056	260 923	8 169	265 127	254 416	275 837	271 780	258 098	285 463
Included	Random	Residence bloc (Euro-direct and PCT-IP filings combined)	249 271	239 727	258 814	10 074	263 460	251 178	275 741	270 835	258 271	283 399
Excluded	Biggest	None	248 637				257 262			262 891		
Excluded	Biggest	Residence bloc	247 523				256 644			263 486		
Excluded	Random	None	245 857	238 096	253 617	12 858	261 749	253 967	269 531	269 737	261 501	277 973
Excluded	Random	None (Euro-direct and PCT-IP filings combined)	247 548	240 173	254 924	11 193	259 646	251 098	268 194	267 757	258 823	276 691
Excluded	Random	Residence bloc	249 909	239 030	260 788	9 886	263 226	252 697	273 754	268 589	256 332	280 845
Excluded	Random	Residence bloc (Euro-direct and PCT-IP filings combined)	248 102	238 008	258 196	11 238	260 905	248 097	273 713	266 792	254 215	279 368
		Actual Filings	258 090									

*) **RMSEF:** Root mean squared error of forecast

Table 2: Predicted Total filings by forecasting method

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 major applicants to EPO, it is not representative of the overall EPO applicant population in the same way that the Random group is.

When considering which forecasting method to use for the Random group, our recommendation remains to use the one that minimises the "root mean squared error of forecast" (RMSEF)[5]. The RMSEF for each estimate is shown in **Table 2**. Based on this criterion, we again recommend using the forecast broken down by residence bloc. Its one-year estimate aligns best of all estimates with the current expectation of actual filings in 2013. This in turn leads to a minimisation of the RMSEF, despite having the highest deviation in 2013 (and all other forecast years). The filing estimates using the recommended prediction method are **252 305** for **2013, 266 948** for **2014**, and **273 621** for **2015**. It should be noted that, for the two and three-year time horizon, our recommended forecast is somewhat more optimistic than the long-term estimates based on the Biggest group. This year, forecasts based on the Random group are on balance more optimistic than those based on the Biggest group.

Due to the design of the survey, growth estimates and predicted filing totals based purely on these survey data cannot properly account for birth and death effects in the true EPO applicant population. **Annex VIII** details the calculation of correction factors to overcome this issue. This year, inclusion of the correction factors would serve to slightly reduce the under-estimation of one-year growth. However, in order to remain consistent with recent reports, separate predictions including correction factors will not be included.

[5] See Section 9.4 for an explanation of the RMSEF.

3.2 Comparison with previous Patent Filings Surveys

Figure 2 and **Table 3** as well as **Figure 3** and **Table 4** compare the forecasting results of previous 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.[6] The numbers forecast are given as percentage values of the actual filings in brackets. For the recommended forecasts, 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. Predictions from the 2012 survey have turned out to be precise not just for one-year growth from the survey year, but also for two-year growth.

Concerning which sample to base estimates on, in retrospect, estimates based on the Random group were slightly more accurate than 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.

For the 2010 and 2011 surveys, the Biggest group estimates again appear to have been somewhat too pessimistic; while for the 2012 survey, Random and Biggest group estimates for 2013 have been quite precise.

[6] A more detailed retrospective analysis of the precision of the predictions is given by Dannegger, F. and Hingley, P., "Predictive accuracy of survey-based forecasts for numbers of filings at the European Patent Office", World Patent Information (2013), 35:187-200.

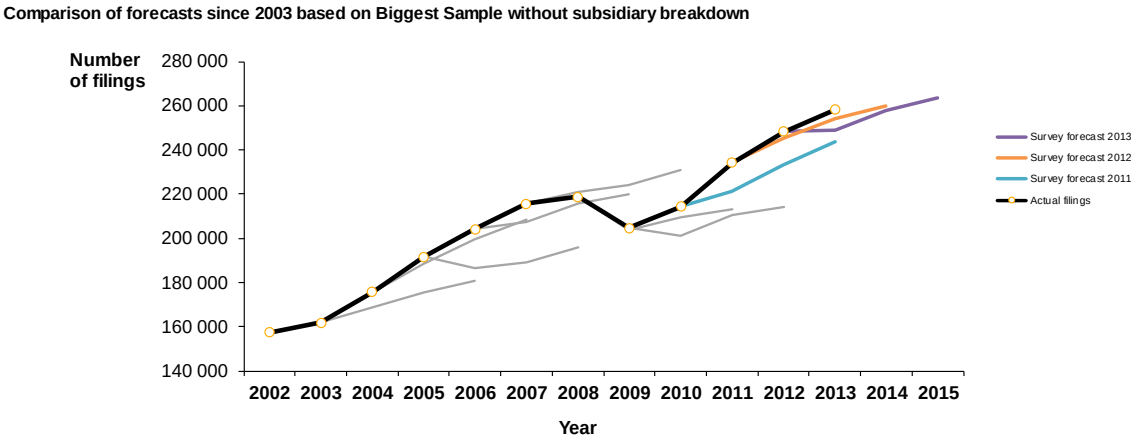


Figure 2: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown)

Number of filings* forecasted based on …	Forecasting Year 2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
… 2003 survey (in % of actual filings)	**157 434** (=actual)	**-****	**-****	**-****										
… 2004 survey (in % of actual filings)		**161 932** (=actual)	**168 905** (96%)	**175 647** (92%)	**180 869** (89%)									
… 2005 survey (in % of actual filings)			**175 643** (=actual)	**188 713** (99%)	**199 455** (98%)	**208 532** (97%)								
… 2006 survey (in % of actual filings)				**191 499** (=actual)	**186 500** (91%)	**189 297** (88%)	**195 854** (90%)							
… 2007 survey (in % of actual filings)					**204 027** (=actual)	**207 557** (96%)	**215 853** (99%)	**219 717** (107%)						
… 2008 survey (in % of actual filings)						**215 586** (=actual)	**221 086** (101%)	**223 897** (109%)	**230 688** (108%)					
… 2009 survey (in % of actual filings)							**218 757** (=actual)	**203 663** (100%)	**209 379** (98%)	**213 281** (91%)				
… 2010 survey (in % of actual filings)								**204 600** (=actual)	**201 136** (94%)	**210 322** (90%)	**214 193** (86%)			
… 2011 survey (in % of actual filings)									**214 430** (=actual)	**221 120** (94%)	**233 136** (94%)	**243 874** (94%)		
… 2012 survey (in % of actual filings)										**234 267** (=actual)	**245 211** (99%)	**253 902** (98%)	**259 949** (N/A)	
… 2013 survey (in % of actual filings)											**248 166** (=actual)	**248 858** (96%)	**257 570** (N/A)	**263 346** (N/A)
Actual filings	**157 434**	**161 932**	**175 643**	**191 499**	**204 027**	**215 586**	**218 757**	**204 600**	**214 430**	**234 267**	**248 166**	**258 090**	**N/A**	**N/A**

Table 3: Comparison of forecasts since 2003 (Biggest group with no subsidiary breakdown). Precision values (value of point estimate in % of true value) in brackets

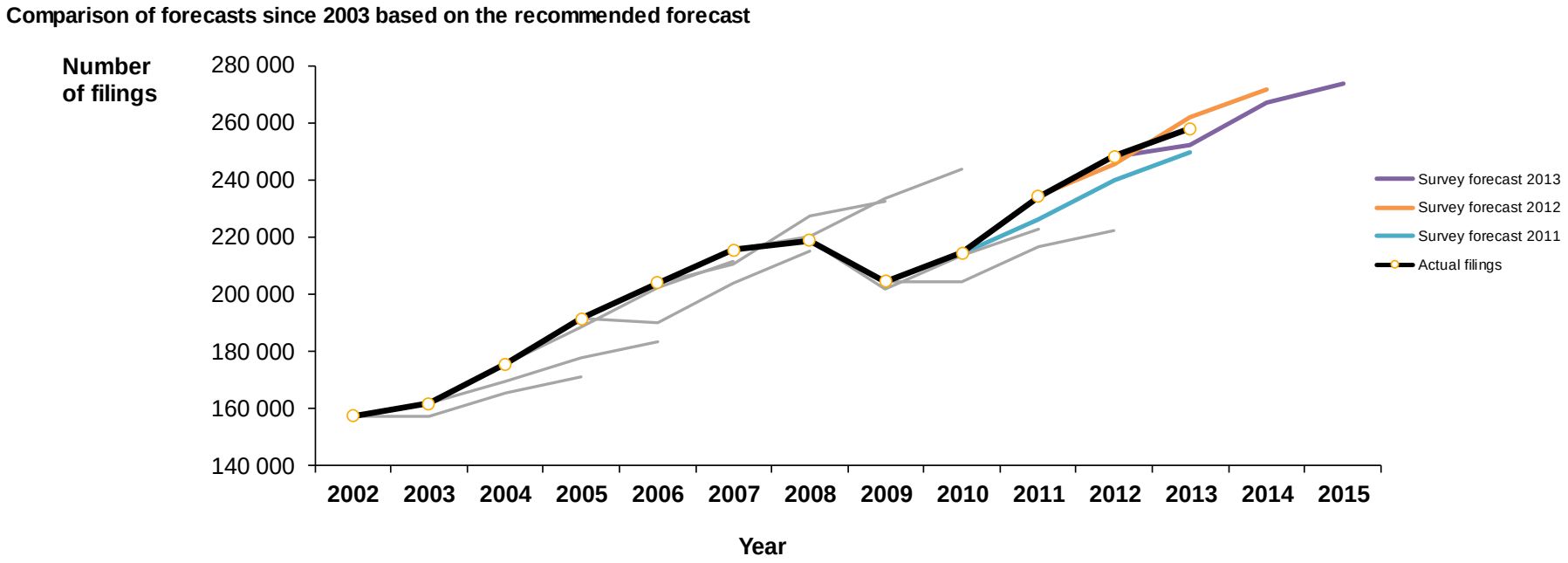


Figure 3: Comparison of recommended forecasts since 2003 (Random group)

year	forecast method	Forecast*)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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* *178 091*	**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** (98%) *205 505* *230 509*								
2006	**Random group** with residence bloc breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*				**191 499** (=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** (98%) *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** (114%) *240 746* *261 649*					
2009	**Random group** without subsidiary breakdown Euro-direct and 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** (95%) *220 420* *240 610*				
2010	**Random group** without subsidiary breakdown Euro-direct and PCT-IP filings combined	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*								**204 600** (=actual)	**204 354** (95%) *199 117* *209 591*	**216 620** (92%) *210 324* *222 915*	**222 160** (90%) *215 126* *229 195*			
2011	**Random group** with residence bloc breakdown (winsorized)	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*									**214 430** (=actual)	**226 027** (96%) *212 517* *239 536*	**239 711** (97%) *223 930* *255 492*	**249 925** (97%) *232 328* *267 522*		
2012	**Random group** with residence bloc breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*										**234 267** (=actual)	**245 346** (99%) *238 788* *251 903*	**262 090** (102%) *251 178* *273 003*	**271 727** (N/A) *256 786* *286 668*	
2013	**Random group** with residence bloc breakdown	**Number of filings** (in % of actual filings) *Lower confidence limit* *Upper confidence limit*											**248 166** (=actual)	**252 305** (98%) *241 921* *262 689*	**266 948** (N/A) *255 429* *278 467*	**273 621** (N/A) *258 522* *288 721*
		Actual filings	**157 434**	**161 932**	**175 643**	**191 499**	**204 027**	**215 586**	**218 757**	**204 600**	**214 430**	**234 267**	**248 166**	**258 090**	**N/A**	**N/A**

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

Table 4: Comparison of recommended forecasts since 2003 (Random group). Precision values (value of point estimate in % of true value) in brackets

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.

4.1 Methodology and structure of results

The main part of the survey covers the predictions of future patent filings. The basic approach was the same as in the previous surveys. For a detailed description of the methodology see 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**.[7] Growth rates in the Random group are calculated as a **Q-index (**see **Annex III, Sections 9.1** and **9.2** for details). This involves weighing 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 determine 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 possibly be answering for a different, or overlapping, entity to the one that was selected as assumed from the EPO's database. Or the respondent may represent a smaller or larger company than the database entity does. The extent of such mismatching was minimised by selecting applicants from the database using capitalised names, with some further amalgamation of obviously identical applicants.

As in previous years, a natural logarithmic transformation was applied to the data before calculating the Q-index. A finite population correction (FPC) was included when calculating the confidence limits for forecasts of total patent filings. For an explanation of this methodology including references to more detailed documentation, see **Annex III**.

When analysing data subsets, e.g. itemisations by residence bloc or mega cluster, cases arise where the sample size falls below a critical threshold of five respondents. In such cases, for either the Composite index or the Q-index, replacement is done by a growth value taken from the corresponding analysis on the next available level of aggregation. In

[7] Cf. Applicant Panel Survey 2001 report: Annex III.

tables containing growth index estimates, 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 2012 base year in order to generate explicit forecasts. Data on Euro-direct, PCT-IP, and Euro-PCT-RP filings for 2012 and 2013 were supplied by the EPO on 14 February 2014, and reflect the status of the database about one week before that date.

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, **35** cases, or **4.7%**, of survey responses were ultimately marked with a critical code. There are also non-critical codes. For details, refer to the plausibility checks described in **Annex I, Section 7.6**.

As in previous years, all growth forecasts were carried out twice: once on the full dataset including those cases marked with a critical code, and once on a reduced set of cases which do not carry any critical code. The summary tables shown in **Section 3.1** thus show results for both sets of data, while the detailed tables in this report always refer to the full dataset including cases with critical codes (unless explicitly stated otherwise).

The patent filing predictions are presented in various **breakdown scenarios**. Based on the resulting forecasts, an overall growth forecast is derived for each year based on an accumulation of the individual forecasts. The breakdown scenarios that are based on so-called mega clusters are of some interest to look for variations between major industrial areas of patenting. Mega cluster forecasts are shown as growth rate forecasts only, and appear in **Annex IV**.

As a means of analysing and reducing distortions by outliers, the technique of **winsorisation** was applied to some of the forecasts as an additional forecast approach. See **Section 9.5** for details on winsorisation.

4.2 Biggest group

This year, the Biggest group is based on a sample of **426** addresses found for Euro-direct filings and Euro-PCT-RP filings, comprising applicants making at least **38** such applications (excluding divisionals) in **2012**, including a small China boost sample (**26** addresses) with a lower number of applications. From this group, **170** responded to the survey (**39.9%**).

Using the Composite index, 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, broken down by residence bloc. 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 implied percentage of PCT-IP of **78.1%** based on this forecast underestimates the actual percentage of PCT-IP filings of **79.5%** in **2013**.

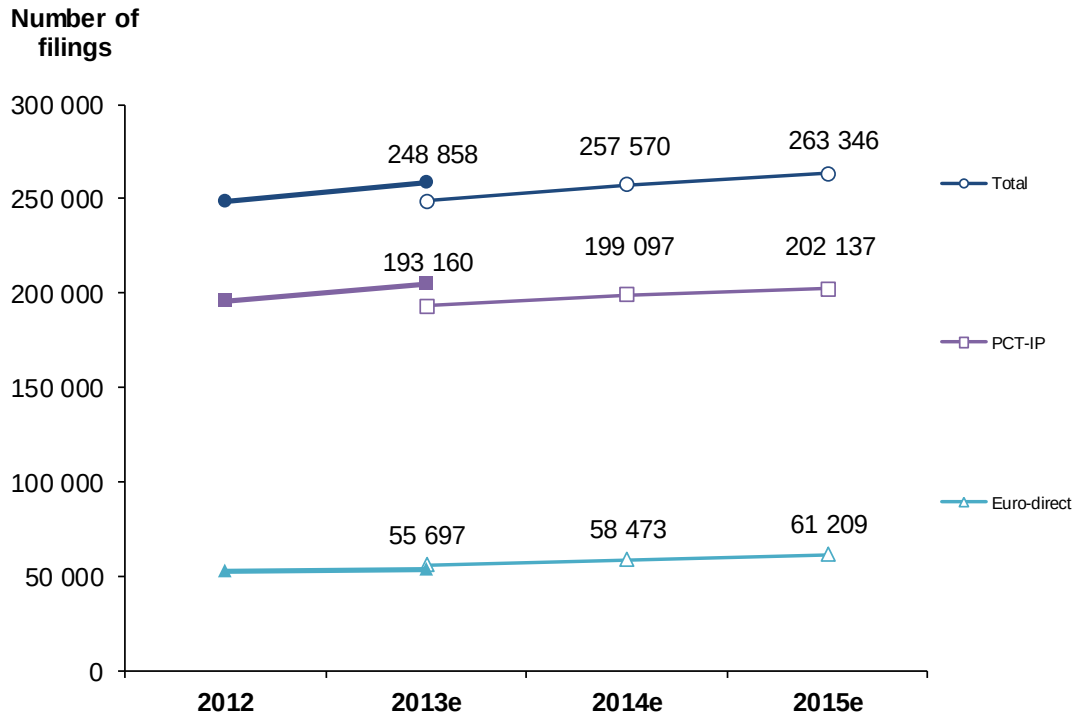


Figure 4: Forecasts for EPO filings – Biggest group with no subsidiary breakdown (solid marks indicate actual numbers, outlined marks indicate estimates)

Biggest group (including critical codes)
No subsidiary breakdown
Composite indices

			Year										
			2012	2013				2014			2015		
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Index 13	Predicted filings	Actual filings	Cases 14	Index 14	Predicted filings	Cases 15	Index 15	Predicted filings
First	Euro-direct	Total	20 742	74	1.0942	22 696	21 782	63	1.1798	24 472	61	1.2237	25 383
	PCT-IP	Total	21 718	56	1.0923	23 723	22 765	48	1.0918	23 711	47	1.0865	23 597
Subsequent	Euro-direct	Total	32 110	90	1.0278	33 002	31 224	77	1.0589	34 001	73	1.1158	35 827
	PCT-IP	Total	173 596	122	0.9760	169 437	182 320	108	1.0103	175 386	103	1.0285	178 540
All	Euro-direct	Total	52 852			55 697	53 006			58 473			61 209
	PCT-IP	Total	195 314			193 160	205 084			199 097			202 137
Grand total		**Total**	**248 166**			**248 858**	**258 090**			**257 570**			**263 346**
Growth from 2012						**0.3%**	**4.0%**			**3.8%**			**6.1%**
Implied %PCT-IP			**78.7%**			**77.6%**	**79.5%**			**77.3%**			**76.8%**

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

Biggest group (including critical codes)
Breakdown by residence bloc
Composite indices

			Year										
			2012	2013				2014			2015		
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Index 13	Predicted filings	Actual filings	Cases 14	Index 14	Predicted filings	Cases 15	Index 15	Predicted filings
First	Euro-direct	EP	18 796	57	1.0864	20 420	20 016	49	1.1713	22 016	47	1.2152	22 842
		JP	229	8	1.2776	293	273	7	1.2359	283	7	1.2381	284
		OT	1 032	2 *	1.0942	1 129	806	2 *	1.1798	1 218	2 *	1.2237	1 263
		US	685	7	1.0472	717	687	5 *	1.1798	808	5 *	1.2237	838
		Total	**20 742**	**74**		**22 559**	**21 782**	**63**		**24 324**	**61**		**25 226**
First	PCT-IP	EP	5 748	34	0.9530	5 478	5 746	28	1.0096	5 803	27	1.0516	6 045
		JP	7 859	16	1.1111	8 732	8 152	15	1.1120	8 739	15	1.1322	8 898
		OT	5 012	2 *	1.0923	5 475	5 547	2 *	1.0918	5 472	2 *	1.0865	5 446
		US	3 099	4 *	1.0923	3 385	3 319	3 *	1.0918	3 383	3 *	1.0865	3 367
		Total	**21 718**	**56**		**23 070**	**22 765**	**48**		**23 397**	**47**		**23 755**
Subsequent	Euro-direct	EP	14 886	53	1.0443	15 546	14 139	47	1.0770	16 032	43	1.1603	17 273
		JP	6 254	24	1.0226	6 395	5 704	21	0.9885	6 182	21	0.9935	6 213
		OT	4 776	5 *	1.0278	4 909	5 671	4 *	1.0589	5 057	4 *	1.1158	5 329
		US	6 194	8	1.0243	6 345	5 710	5 *	1.0589	6 559	5 *	1.1158	6 911
		Total	**32 110**	**90**		**33 195**	**31 224**	**77**		**33 830**	**73**		**35 726**
Subsequent	PCT-IP	EP	51 734	72	0.9468	48 981	51 717	63	0.9983	51 645	58	1.0263	53 092
		JP	35 801	40	1.0119	36 226	37 137	36	1.0366	37 112	36	1.0564	37 821
		OT	37 516	3 *	0.9760	36 617	41 468	3 *	1.0103	37 902	3 *	1.0285	38 584
		US	48 545	7	0.9386	45 563	51 997	6	0.9477	46 006	6	0.9691	47 047
		Total	**173 596**	**122**		**167 386**	**182 320**	**108**		**172 665**	**103**		**176 543**
All	Euro-direct	EP	33 682			35 966	34 155			38 048			40 115
		JP	6 483			6 688	5 977			6 465			6 497
		OT	5 808			6 038	6 477			6 275			6 592
		US	6 879			7 062	6 397			7 367			7 749
		Total	**52 852**			**55 754**	**53 006**			**58 155**			**60 952**
All	PCT-IP	EP	57 482			54 459	57 463			57 448			59 137
		JP	43 660			44 958	45 289			45 850			46 718
		OT	42 528			42 092	47 015			43 375			44 030
		US	51 644			48 947	55 316			49 389			50 413
		Total	**195 314**			**190 456**	**205 084**			**196 062**			**200 299**
Grand total	**Total**	EP	91 164			90 425	91 618			95 496			99 252
		JP	50 143			51 646	51 266			52 315			53 215
		OT	48 336			48 130	53 492			49 650			50 622
		US	58 523			56 009	61 713			56 756			58 162
		Total	**248 166**			**246 210**	**258 090**			**254 217**			**261 251**
Growth from 2012						**-0.8%**	**4.0%**			**2.4%**			**5.3%**
Impied % PCT-IP						**77.4%**	**79.5%**			**77.1%**			**76.7%**

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

4.3 Random group

The Random group this year is based on a sample of **2 756** addresses found for Euro-direct filings and Euro-PCT-RP filings (including US boost sample of **305** addresses), of which **728** responded to the survey (**26.4%**).

For responses from the Random group, the Q-index method was used following logarithmic transformation of the data. All the tables in this section 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 (for details see **Annex III, Section 9.3**).

Unless explicitly stated otherwise, all results are based on the full version of the Random group dataset, including cases with critical comments. As can be seen in **Table 2**, there is no appreciable difference this year between analyses including critical comments and those excluding critical comments, in terms of forecasting the 2013 observed filings.

The forecasts for numbers of patent filings without a breakdown by residence bloc are illustrated in **Table 7** to **Table 9**. **Figure 5** and **Table 7** depict the results with the usual breakdowns by filing type and filing route. **Table 8** gives the results of the same forecast method using winsorised data. To address any uncertainty about whether it is advisable to forecast separately by filing route, a forecast combining the Euro-direct and PCT-IP filing routes was done, the results of which are displayed in **Table 9**.

Analyses for the Random group using a breakdown into the four residence blocs, Europe (EPC), Japan (JP), Other (OT), and the US, are shown in **Table 10** to **Table 12**. **Table 10** and **Figure** 6 show the results when using the Random group. **Figure 7** shows the detailed results per residence bloc. **Table 11** depicts the results using winsorised data and **Table 12** shows results when combining Euro-direct and PCT-IP filing routes.

Table 13 to **Table 16** show results for some of the forecasts performed based on the Random group, but excluding cases with a critical code: **Table 13** provides the results of the analysis without a breakdown by residence bloc (compared to **Table 7**). **Table 15** shows the results employing a residence bloc breakdown but excluding cases with a critical code (compared to **Table 10**). Finally, **Table 16** shows the results of a forecast without subsidiary breakdown and combining Euro-direct and PCT-IP filing routes (compared to **Table 12**).

As was the case for the past two years, restricting the forecasts to the reduced dataset this year does not lead to a consistent reduction in estimated deviations or RMSEF values (see **Table 2**). This supports our decision to continue using full dataset estimates including cases with critical code as the de facto standard for this report.

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 and 2010, 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 recommended forecast approach (employing all data including cases with critical codes) was determined by minimising the RMSEF, leading to the estimate employing residence bloc breakdown (in **Table 10**). For two and three year ahead predictions, this approach leads to the most optimistic estimates for all three years under review and is also considerably more optimistic than long-term estimates based on the Biggest group. As was the case last year, winsorisation of individual estimates did not lead to an improvement of forecasts and was thus not performed for the recommended forecast.

Figure 7 suggests that respondents from the EP and US residence blocs appear to underestimate the number of applications for 2013, leading to the overall underestimation of the recommended forecast method shown in **Figure 6**. The estimates from the JP and OT residence blocs appear to be quite accurate though.

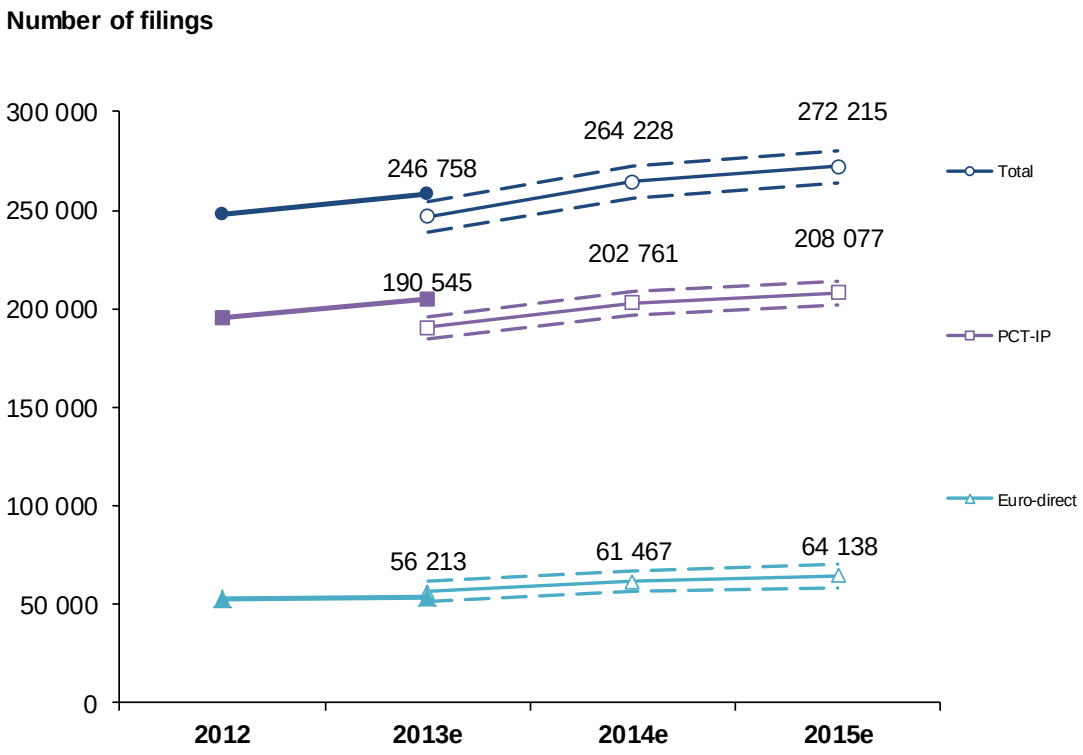


Figure 5: Forecasts for EPO filings – Random group without breakdown by residence bloc (solid marks indicate actual numbers, outlined marks indicate estimates and dashed lines illustrate 95% confidence limits)

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index	S.E. 14	Predicted filings	Cases 15	Q-index	S.E. 15	Predicted filings
First	Euro-direct	**Total**	**20 742**	231	1.1977	0.0624	**24 843**	**21 782**	204	1.3073	0.0878	**27 116**	189	1.3740	0.0930	**28 499**
		LCL					21 794					22 423				23 273
		UCL					27 893					31 810				33 725
First	PCT-IP	**Total**	**21 718**	129	1.0395	0.0508	**22 577**	**22 765**	114	1.1209	0.0399	**24 344**	112	1.1972	0.0508	**26 001**
		LCL					20 323					22 440				23 406
		UCL					24 830					26 249				28 595
Subsequent	Euro-direct	**Total**	**32 110**	272	0.9769	0.0688	**31 369**	**31 224**	232	1.0698	0.0225	**34 350**	226	1.1099	0.0298	**35 639**
		LCL					27 122					32 836				33 554
		UCL					35 617					35 865				37 724
Subsequent	PCT-IP	**Total**	**173 596**	348	0.9676	0.0154	**167 969**	**182 320**	297	1.0278	0.0167	**178 417**	284	1.0489	0.0155	**182 076**
		LCL					162 891					172 559				176 543
		UCL					173 046					184 275				187 609
All	Euro-direct	**Total**	**52 852**				**56 213**	**53 006**				**61 467**				**64 138**
		LCL					50 984					56 535				58 511
		UCL					61 442					66 399				69 765
All	PCT-IP	**Total**	**195 314**				**190 545**	**205 084**				**202 761**				**208 077**
		LCL					184 990					196 602				201 966
		UCL					196 101					208 921				214 188
Grand total		**Total**	**248 166**				**246 758**	**258 090**				**264 228**				**272 215**
		LCL					239 129					256 337				263 908
		UCL					254 387					272 119				280 522
Growth from 2012							**-0.6%**	**4.0%**				**6.5%**				**9.7%**
Implied % PCT-IP			**78.7%**				**77.2%**	**79.5%**				**76.7%**				**76.4%**
Deviation in % of forecast							**3.1%**					**3.0%**				**3.1%**

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

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index	S.E. 14	Predicted filings	Cases 15	Q-index	S.E. 15	Predicted filings
First	Euro-direct	**Total**	**20 742**	231	1.1621	0.0558	**24 105**	**21 782**	204	1.2527	0.0767	**25 984**	189	1.3266	0.0852	**27 517**
		LCL					21 462					22 063				22 897
		UCL					26 748					29 904				32 138
First	PCT-IP	**Total**	**21 718**	129	1.0353	0.0496	**22 485**	**22 765**	114	1.1183	0.0402	**24 287**	112	1.1987	0.0515	**26 034**
		LCL					20 297					22 370				23 399
		UCL					24 673					26 204				28 669
Subsequent	Euro-direct	**Total**	**32 110**	272	0.9985	0.0376	**32 063**	**31 224**	232	1.0674	0.0199	**34 275**	226	1.1141	0.0285	**35 775**
		LCL					29 696					32 935				33 773
		UCL					34 430					35 616				37 778
Subsequent	PCT-IP	**Total**	**173 596**	348	0.9647	0.0140	**167 473**	**182 320**	297	1.0256	0.0151	**178 039**	284	1.0480	0.0148	**181 928**
		LCL					162 870					172 771				176 635
		UCL					172 077					183 307				187 220
All	Euro-direct	**Total**	**52 852**				**56 168**	**53 006**				**60 259**				**63 293**
		LCL					52 620					56 115				58 257
		UCL					59 716					64 403				68 328
All	PCT-IP	**Total**	**195 314**				**189 958**	**205 084**				**202 326**				**207 962**
		LCL					184 862					196 720				202 049
		UCL					195 055					207 931				213 874
Grand total		**Total**	**248 166**				**246 126**	**258 090**				**262 585**				**271 254**
		LCL					239 916					255 614				263 488
		UCL					252 336					269 556				279 020
Growth from 2012							**-0.8%**	**4.0%**				**5.8%**				**9.3%**
Implied % PCT-IP			**78.7%**				**77.2%**	**79.5%**				**77.1%**				**76.7%**
Deviation in % of forecast							**2.5%**					**2.7%**				**2.9%**

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

Random group (including critical codes)
No subsidiary breakdown
Q-Indices
Euro-direct and 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													
			2012	2013					2014				2015			
Filing type	Filing route	Res. bloc	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	All	**Total**	**42 460**	248	1.1315	0.0501	**48 044**	**44 547**	223	1.2110	0.0612	**51 420**	209	1.2453	0.0617	**52 875**
		LCL					43 318					45 240				46 460
		UCL					52 771					57 601				59 290
Subsequent	All	**Total**	**205 706**	406	0.9764	0.0142	**200 854**	**213 544**	347	1.0285	0.0145	**211 565**	335	1.0608	0.0147	**218 209**
		LCL					195 271					205 565				211 923
		UCL					206 437					217 565				224 495
Grand total		**Total**	**248 166**				**248 898**	**258 090**				**262 985**				**271 084**
		LCL					241 583					254 371				262 102
		UCL					256 214					271 599				280 065
Growth from 2012							**0.3%**	**4.0%**				**6.0%**				**9.2%**
Deviation in % of forecast							**2.9%**					**3.3%**				**3.3%**

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

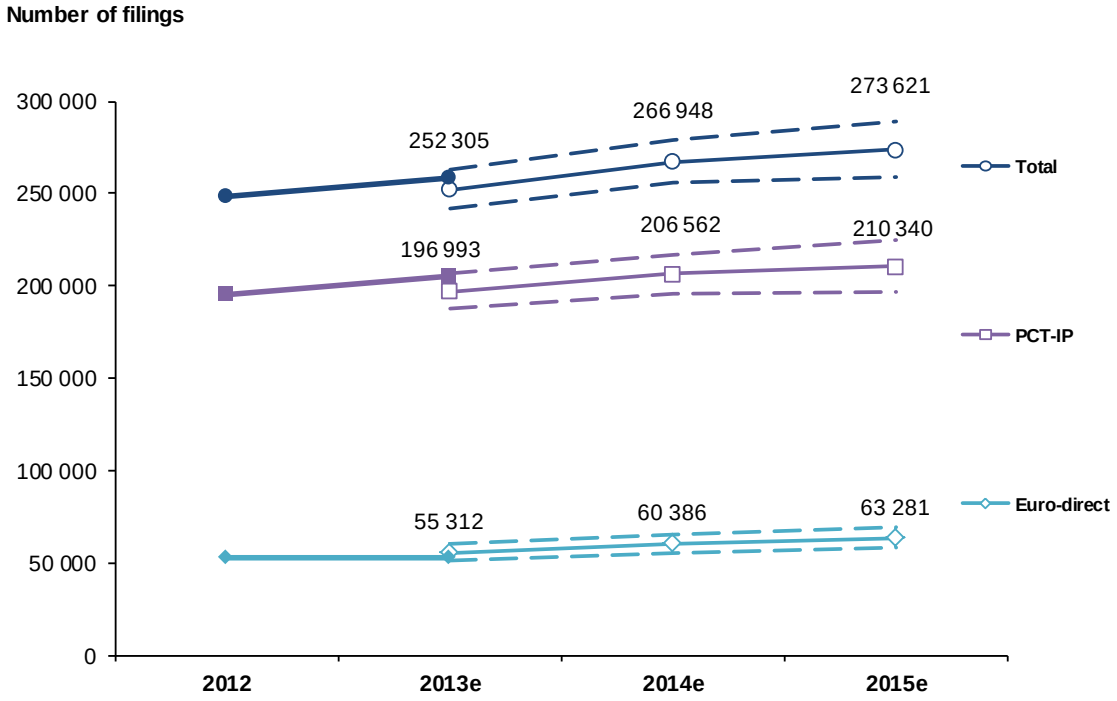


Figure 6: Forecasts for EPO filings based on the recommended forecast – Random group with breakdown by residence bloc (solid marks indicate actual numbers, outlined marks indicate estimates and dashed lines illustrate 95% confidence limits)

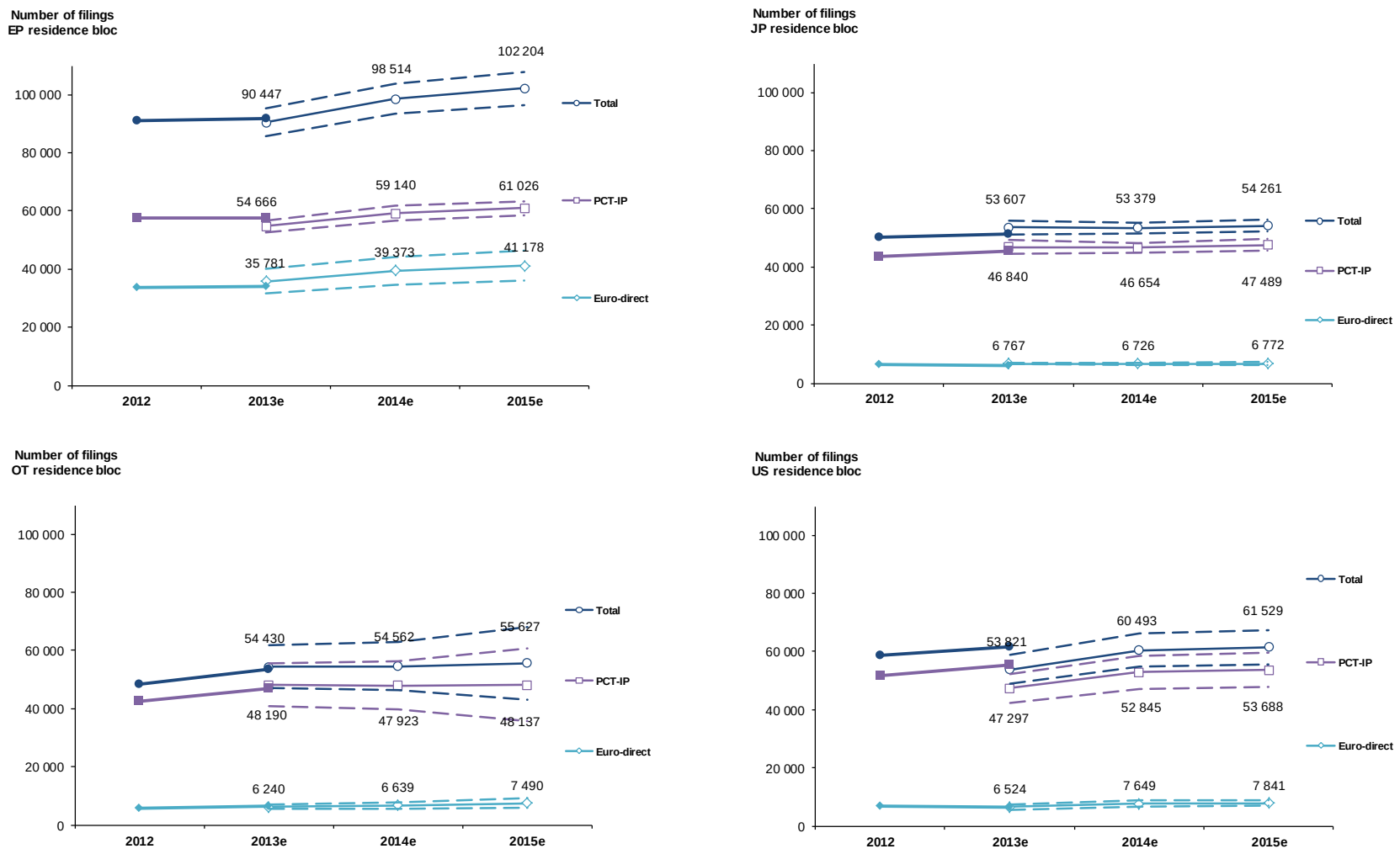


Figure 7: Forecasts for EPO filings by residence bloc based on the Random group with residence bloc breakdown (solid marks indicate actual numbers, outlined marks indicate estimates and dashed lines illustrate 95% confidence limits)

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	Euro-direct	EP	18 796	199	1.1361	0.0721	21 354	20 016	176	1.2340	0.0986	23 194	162	1.2930	0.1046	24 303
		JP	229	12	1.2078	0.0992	277	273	11	1.0818	0.0330	248	11	1.0969	0.0393	251
		OT	1 032	3 *	1.1977	0.0624	1 236	806	3 *	1.3073	0.0878	1 349	3 *	1.3740	0.0930	1 418
		US	685	17	1.4669	0.1639	1 005	687	14	1.8704	0.2466	1 281	13	1.9019	0.2432	1 303
		Total	**20 742**	**231**			**23 872**	**21 782**	**204**			**26 072**	**189**			**27 275**
		LCL					20 820					21 503				22 202
		UCL					26 923					30 641				32 348
First	PCT-IP	EP	5 748	84	0.9678	0.0586	5 563	5 746	71	1.0774	0.0539	6 193	70	1.1704	0.0710	6 727
		JP	7 859	25	1.3369	0.0979	10 507	8 152	25	1.2597	0.0670	9 900	25	1.3142	0.0782	10 328
		OT	5 012	6	1.2639	0.0344	6 335	5 547	7	1.2153	0.0583	6 092	7	1.1745	0.1133	5 887
		US	3 099	14	0.8086	0.1034	2 506	3 319	11	1.0295	0.0884	3 190	10	1.1013	0.0691	3 412
		Total	**21 718**	**129**			**24 911**	**22 765**	**114**			**25 374**	**112**			**26 355**
		LCL					22 679					23 663				24 037
		UCL					27 142					27 086				28 673
Subsequent	Euro-direct	EP	14 886	188	0.9692	0.1058	14 427	14 139	163	1.0869	0.0297	16 179	156	1.1336	0.0416	16 875
		JP	6 254	43	1.0378	0.0239	6 491	5 704	40	1.0358	0.0323	6 478	40	1.0427	0.0360	6 521
		OT	4 776	12	1.0476	0.0897	5 004	5 671	10	1.1075	0.1108	5 289	10	1.2713	0.1256	6 072
		US	6 194	29	0.8910	0.0882	5 519	5 710	19	1.0280	0.0613	6 367	20	1.0556	0.0444	6 538
		Total	**32 110**	**272**			**31 440**	**31 224**	**232**			**34 314**	**226**			**36 006**
		LCL					28 139					32 585				33 834
		UCL					34 742					36 042				38 178
Subsequent	PCT-IP	EP	51 734	230	0.9491	0.0206	49 103	51 717	199	1.0235	0.0231	52 948	188	1.0496	0.0204	54 299
		JP	35 801	73	1.0149	0.0162	36 334	37 137	59	1.0266	0.0145	36 754	59	1.0380	0.0177	37 161
		OT	37 516	12	1.1157	0.0892	41 855	41 468	13	1.1150	0.0994	41 832	12	1.1262	0.1469	42 250
		US	48 545	33	0.9227	0.0547	44 791	51 997	26	1.0229	0.0577	49 655	25	1.0356	0.0582	50 276
		Total	**173 596**	**348**			**172 083**	**182 320**	**297**			**181 188**	**284**			**183 986**
		LCL					162 992					170 897				170 123
		UCL					181 173					191 478				197 849
All	Euro-direct	EP	33 682				35 781	34 155				39 373				41 178
		JP	6 483				6 767	5 977				6 726				6 772
		OT	5 808				6 240	6 477				6 639				7 490
		US	6 879				6 524	6 397				7 649				7 841
		Total	**52 852**				**55 312**	**53 006**				**60 386**				**63 281**
		LCL					50 816					55 501				57 763
		UCL					59 808					65 271				68 799
All	PCT-IP	EP	57 482				54 666	57 463				59 140				61 026
		JP	43 660				46 840	45 289				46 654				47 489
		OT	42 528				48 190	47 015				47 923				48 137
		US	51 644				47 297	55 316				52 845				53 688
		Total	**195 314**				**196 993**	**205 084**				**206 562**				**210 340**
		LCL					187 633					196 130				196 285
		UCL					206 354					216 994				224 396
Grand total	**Total**	EP	91 164				90 447	91 618				98 514				102 204
		JP	50 143				53 607	51 266				53 379				54 261
		OT	48 336				54 430	53 492				54 562				55 627
		US	58 523				53 821	61 713				60 493				61 529
		Total	**248 166**				**252 305**	**258 090**				**266 948**				**273 621**
		LCL					241 921					255 429				258 522
		UCL					262 689					278 467				288 721
Growth from 2012							**1.7%**	**4.0%**				**7.6%**				**10.3%**
Impied % PCT-IP							**78.1%**	**79.5%**				**77.4%**				**76.9%**
Deviation in % of forecast							**4.1%**					**4.3%**				**5.5%**

Table 10: Forecasts for EPO filings – Random group, broken down by residence bloc

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	Euro-direct	EP	18 796	199	1.0959	0.0606	20 599	20 016	176	1.1643	0.0764	21 885	162	1.2315	0.0889	23 148
		JP	229	12	1.2140	0.1021	278	273	11	1.0818	0.0330	248	11	1.0969	0.0393	251
		OT	1 032	3 *	1.1977	0.0624	1 236	806	3 *	1.3073	0.0878	1 349	3 *	1.3740	0.0930	1 418
		US	685	17	1.4148	0.1700	969	687	14	1.8648	0.2534	1 277	13	1.9019	0.2432	1 303
		Total	**20 742**	**231**			**23 082**	**21 782**	**204**			**24 759**	**189**			**26 120**
		LCL					20 601					21 394				22 004
		UCL					25 563					28 124				30 236
First	PCT-IP	EP	5 748	84	0.9696	0.0603	5 573	5 746	71	1.0775	0.0548	6 194	70	1.1761	0.0722	6 760
		JP	7 859	25	1.3006	0.0834	10 221	8 152	25	1.2518	0.0664	9 837	25	1.3106	0.0786	10 299
		OT	5 012	6	1.2639	0.0344	6 335	5 547	7	1.1955	0.0432	5 992	7	1.1509	0.0999	5 769
		US	3 099	14	0.8169	0.1037	2 531	3 319	11	1.0295	0.0884	3 190	10	1.1013	0.0691	3 412
		Total	**21 718**	**129**			**24 660**	**22 765**	**114**			**25 213**	**112**			**26 241**
		LCL					22 734					23 582				24 010
		UCL					26 587					26 844				28 472
Subsequent	Euro-direct	EP	14 886	188	0.9935	0.0565	14 789	14 139	163	1.0814	0.0267	16 098	156	1.1347	0.0403	16 891
		JP	6 254	43	1.0518	0.0206	6 578	5 704	40	1.0478	0.0255	6 553	40	1.0612	0.0305	6 636
		OT	4 776	12	1.0323	0.0697	4 930	5 671	10	1.1244	0.0980	5 370	10	1.2793	0.1137	6 110
		US	6 194	29	0.9243	0.0792	5 725	5 710	19	1.0077	0.0568	6 242	20	1.0468	0.0432	6 484
		Total	**32 110**	**272**			**32 023**	**31 224**	**232**			**34 262**	**226**			**36 122**
		LCL					30 017					32 718				34 089
		UCL					34 029					35 806				38 155
Subsequent	PCT-IP	EP	51 734	230	0.9452	0.0185	48 900	51 717	199	1.0191	0.0206	52 723	188	1.0484	0.0196	54 238
		JP	35 801	73	1.0136	0.0161	36 287	37 137	59	1.0301	0.0133	36 880	59	1.0404	0.0165	37 246
		OT	37 516	12	1.1058	0.0847	41 485	41 468	13	1.1057	0.0953	41 482	12	1.1030	0.1343	41 379
		US	48 545	33	0.9280	0.0539	45 052	51 997	26	1.0260	0.0579	49 807	25	1.0389	0.0583	50 434
		Total	**173 596**	**348**			**171 724**	**182 320**	**297**			**180 892**	**284**			**183 297**
		LCL					163 058					170 976				170 603
		UCL					180 390					190 809				195 992
All	Euro-direct	EP	33 682				35 388	34 155				37 982				40 039
		JP	6 483				6 856	5 977				6 800				6 888
		OT	5 808				6 166	6 477				6 719				7 528
		US	6 879				6 694	6 397				7 519				7 787
		Total	**52 852**				**55 105**	**53 006**				**59 021**				**62 242**
		LCL					51 914					55 318				57 651
		UCL					58 296					62 724				66 832
All	PCT-IP	EP	57 482				54 474	57 463				58 917				60 998
		JP	43 660				46 508	45 289				46 717				47 546
		OT	42 528				47 820	47 015				47 474				47 148
		US	51 644				47 583	55 316				52 997				53 846
		Total	**195 314**				**196 384**	**205 084**				**206 106**				**209 538**
		LCL					187 507					196 056				196 649
		UCL					205 262					216 156				222 428
Grand total	**Total**	EP	91 164				89 862	91 618				96 899				101 038
		JP	50 143				53 364	51 266				53 518				54 433
		OT	48 336				53 986	53 492				54 193				54 676
		US	58 523				54 277	61 713				60 516				61 633
		Total	**248 166**				**251 489**	**258 090**				**265 127**				**271 780**
		LCL					242 056					254 416				258 098
		UCL					260 923					275 837				285 463
Growth from 2012							**1.3%**	**4.0%**				**6.8%**				**9.5%**
Impied % PCT-IP							**78.1%**	**79.5%**				**77.7%**				**77.1%**
Deviation in % of forecast							**3.8%**					**4.0%**				**5.0%**

Table 11: Forecasts for EPO filings – Random group, broken down by residence bloc, analysis employing winsorisation

Random group (including critical codes)
Breakdown by residence bloc
Q-indices
Euro-direct and 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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	All	EP	24 544	194	1.1063	0.0621	27 152	25 762	172	1.2181	0.0830	29 898	159	1.2557	0.0839	30 819
		JP	8 088	30	1.2716	0.0823	10 285	8 425	29	1.2158	0.0541	9 833	29	1.2556	0.0626	10 155
		OT	6 044	5	1.3688	0.0831	8 274	6 353	6	1.2503	0.0944	7 557	6	1.1654	0.1236	7 044
		US	3 784	19	0.9173	0.0938	3 471	4 006	16	1.0948	0.0822	4 142	15	1.1528	0.0702	4 362
		Total	**42 460**	**248**			**49 181**	**44 547**	**223**			**51 431**	**209**			**52 380**
		LCL					45 181					46 193				46 827
		UCL					53 181					56 669				57 933
Subsequent	All	EP	66 620	272	0.9702	0.0193	64 634	65 856	237	1.0332	0.0191	68 831	226	1.0738	0.0193	71 534
		JP	42 055	81	1.0095	0.0115	42 455	42 841	68	1.0112	0.0164	42 528	68	1.0232	0.0197	43 030
		OT	42 292	14	1.0321	0.0801	43 648	47 139	12	1.0417	0.0970	44 056	12	1.0992	0.1014	46 488
		US	54 739	39	0.9016	0.0470	49 352	57 707	30	1.0342	0.0595	56 614	29	1.0486	0.0488	57 402
		Total	**205 706**	**406**			**200 089**	**213 544**	**347**			**212 029**	**335**			**218 455**
		LCL					191 425					200 921				207 184
		UCL					208 754					223 138				229 726
Grand total	**Total**	EP	91 164				91 787	91 618				98 729				102 353
		JP	50 143				52 740	51 266				52 361				53 186
		OT	48 336				51 921	53 492				51 613				53 532
		US	58 523				52 822	61 713				60 756				61 764
		Total	**248 166**				**249 271**	**258 090**				**263 460**				**270 835**
		LCL					239 727					251 178				258 271
		UCL					258 814					275 741				283 399
Growth from 2012							**0.4%**	**4.0%**				**6.2%**				**9.1%**
Deviation in % of forecast							**3.8%**					**4.7%**				**4.6%**

Table 12: Forecasts for EPO filings – Random group, broken down by residence bloc (Euro-direct and PCT-IP filings combined)

Random group (excluding critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index	S.E. 14	Predicted filings	Cases 15	Q-index	S.E. 15	Predicted filings
First	Euro-direct	**Total**	**20 742**	224	1.1954	0.0637	**24 795**	**21 782**	197	1.3026	0.0899	**27 019**	182	1.3693	0.0953	**28 402**
		LCL					21 690					22 227				23 061
		UCL					27 901					31 811				33 743
First	PCT-IP	**Total**	**21 718**	124	1.0434	0.0517	**22 660**	**22 765**	108	1.1206	0.0406	**24 337**	106	1.1921	0.0522	**25 889**
		LCL					20 359					22 397				23 232
		UCL					24 961					26 277				28 546
Subsequent	Euro-direct	**Total**	**32 110**	259	0.9868	0.0707	**31 686**	**31 224**	219	1.0733	0.0224	**34 464**	213	1.1122	0.0304	**35 714**
		LCL					27 278					32 948				33 584
		UCL					36 093					35 981				37 843
Subsequent	PCT-IP	**Total**	**173 596**	328	0.9604	0.0156	**166 716**	**182 320**	278	1.0134	0.0163	**175 928**	266	1.0353	0.0149	**179 732**
		LCL					161 630					170 312				174 468
		UCL					171 802					181 544				184 996
All	Euro-direct	**Total**	**52 852**				**56 481**	**53 006**				**61 484**				**64 116**
		LCL					51 089					56 457				58 366
		UCL					61 873					66 510				69 865
All	PCT-IP	**Total**	**195 314**				**189 376**	**205 084**				**200 265**				**205 621**
		LCL					183 794					194 324				199 725
		UCL					194 958					206 207				211 518
Grand total		**Total**	**248 166**				**245 857**	**258 090**				**261 749**				**269 737**
		LCL					238 096					253 967				261 501
		UCL					253 617					269 531				277 973
Growth from 2012							**-0.9%**	**4.0%**				**5.5%**				**8.7%**
Implied % PCT-IP			**78.7%**				**77.0%**	**79.5%**				**76.5%**				**76.2%**
Deviation in % of forecast							**3.2%**					**3.0%**				**3.1%**

Table 13: Forecasts for EPO filings – Random group, excluding companies with critical comments, no subsidiary breakdown

Random group (excluding critical codes)
No subsidiary breakdown
Q-Indices
Euro-direct and 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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	All	**Total**	**42 460**	239	1.1337	0.0511	**48 137**	**44 547**	213	1.2096	0.0629	**51 359**	199	1.2391	0.0636	**52 611**
		LCL					43 311					45 012				46 036
		UCL					52 963					57 705				59 186
Subsequent	All	**Total**	**205 706**	384	0.9694	0.0143	**199 411**	**213 544**	325	1.0126	0.0140	**208 288**	314	1.0459	0.0143	**215 146**
		LCL					193 834					202 561				209 098
		UCL					204 988					214 014				221 194
Grand total		**Total**	**248 166**				**247 548**	**258 090**				**259 646**				**267 757**
		LCL					240 173					251 098				258 823
		UCL					254 924					268 194				276 691
Growth from 2012							**-0.2%**	**4.0%**				**4.6%**				**7.9%**
Deviation in % of forecast							**3.0%**					**3.3%**				**3.3%**

Table 14: Forecasts for EPO filings – Random group, excluding companies with critical comments, no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

Random group (excluding critical codes)
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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	Euro-direct	EP	18 796	193	1.1314	0.0729	21 265	20 016	170	1.2259	0.0998	23 043	156	1.2833	0.1059	24 121
		JP	229	12	1.2078	0.0992	277	273	11	1.0818	0.0330	248	11	1.0969	0.0393	251
		OT	1 032	3 *	1.1954	0.0637	1 234	806	3 *	1.3026	0.0899	1 344	3 *	1.3693	0.0953	1 413
		US	685	16	1.5171	0.1702	1 039	687	13	1.9788	0.2523	1 355	12	2.0186	0.2471	1 383
		Total	**20 742**	**224**			**23 814**	**21 782**	**197**			**25 990**	**182**			**27 168**
		LCL					20 741					21 387				22 063
		UCL					26 888					30 594				32 274
First	PCT-IP	EP	5 748	82	0.9650	0.0589	5 547	5 746	69	1.0724	0.0541	6 164	68	1.1647	0.0716	6 695
		JP	7 859	24	1.3349	0.1004	10 491	8 152	24	1.2554	0.0685	9 866	24	1.3113	0.0802	10 305
		OT	5 012	5 *	1.0434	0.0517	5 230	5 547	5 *	1.1206	0.0406	5 617	5 *	1.1921	0.0522	5 975
		US	3 099	13	0.8891	0.0816	2 755	3 319	10	1.1464	0.0698	3 552	9	1.1758	0.0833	3 643
		Total	**21 718**	**124**			**24 023**	**22 765**	**108**			**25 199**	**106**			**26 618**
		LCL					21 738					23 576				24 551
		UCL					26 308					26 822				28 686
Subsequent	Euro-direct	EP	14 886	180	0.9735	0.1079	14 492	14 139	155	1.0899	0.0302	16 225	148	1.1387	0.0422	16 950
		JP	6 254	42	1.0324	0.0238	6 457	5 704	39	1.0181	0.0302	6 367	39	1.0250	0.0342	6 410
		OT	4 776	11	1.0589	0.0914	5 057	5 671	9	1.1237	0.1101	5 367	9	1.2801	0.1278	6 114
		US	6 194	26	0.9468	0.0649	5 865	5 710	16	1.0704	0.0489	6 630	17	1.0795	0.0375	6 686
		Total	**32 110**	**259**			**31 870**	**31 224**	**219**			**34 589**	**213**			**36 160**
		LCL					28 548					32 906				33 970
		UCL					35 191					36 273				38 351
Subsequent	PCT-IP	EP	51 734	218	0.9422	0.0206	48 745	51 717	188	1.0091	0.0222	52 205	178	1.0390	0.0195	53 752
		JP	35 801	71	1.0083	0.0160	36 097	37 137	57	1.0189	0.0143	36 479	57	1.0305	0.0177	36 894
		OT	37 516	10	1.1067	0.0898	41 519	41 468	11	1.0753	0.0785	40 342	10	1.0484	0.1054	39 332
		US	48 545	29	0.9031	0.0671	43 841	51 997	22	0.9974	0.0656	48 420	21	1.0024	0.0677	48 663
		Total	**173 596**	**328**			**170 202**	**182 320**	**278**			**177 447**	**266**			**178 642**
		LCL					160 577					168 271				167 914
		UCL					179 827					186 622				189 369
All	Euro-direct	EP	33 682				35 756	34 155				39 267				41 072
		JP	6 483				6 733	5 977				6 615				6 661
		OT	5 808				6 291	6 477				6 711				7 527
		US	6 879				6 904	6 397				7 986				8 069
		Total	**52 852**				**55 684**	**53 006**				**60 580**				**63 329**
		LCL					51 159					55 678				57 773
		UCL					60 210					65 481				68 885
All	PCT-IP	EP	57 482				54 292	57 463				58 370				60 447
		JP	43 660				46 588	45 289				46 345				47 199
		OT	42 528				46 748	47 015				45 959				45 307
		US	51 644				46 596	55 316				51 972				52 306
		Total	**195 314**				**194 225**	**205 084**				**202 646**				**205 260**
		LCL					184 332					193 328				194 335
		UCL					204 118					211 964				216 185
Grand total	**Total**	EP	91 164				90 048	91 618				97 637				101 519
		JP	50 143				53 321	51 266				52 960				53 860
		OT	48 336				53 039	53 492				52 670				52 835
		US	58 523				53 500	61 713				59 958				60 375
		Total	**248 166**				**249 909**	**258 090**				**263 226**				**268 589**
		LCL					239 030					252 697				256 332
		UCL					260 788					273 754				280 845
Growth from 2012							**0.7%**	**4.0%**				**6.1%**				**8.2%**
Impied % PCT-IP							**77.7%**	**79.5%**				**77.0%**				**76.4%**
Deviation in % of forecast							**4.4%**					**4.0%**				**4.6%**

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

Random group (excluding critical codes)
No subsidiary breakdown
Q-Indices
Euro-direct and 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													
			2012	2013					2014				2015			
Filing type	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
First	All	**Total**	**42 460**	239	1.1337	0.0511	**48 137**	**44 547**	213	1.2096	0.0629	**51 359**	199	1.2391	0.0636	**52 611**
		LCL					43 311					45 012				46 036
		UCL					52 963					57 705				59 186
Subsequent	All	**Total**	**205 706**	384	0.9694	0.0143	**199 411**	**213 544**	325	1.0126	0.0140	**208 288**	314	1.0459	0.0143	**215 146**
		LCL					193 834					202 561				209 098
		UCL					204 988					214 014				221 194
Grand total		**Total**	**248 166**				**247 548**	**258 090**				**259 646**				**267 757**
		LCL					240 173					251 098				258 823
		UCL					254 924					268 194				276 691
Growth from 2012							**-0.2%**	**4.0%**				**4.6%**				**7.9%**
Deviation in % of forecast							**3.0%**					**3.3%**				**3.3%**

Table 16: Forecasts for EPO filings – Random group, excluding companies with critical comments, no subsidiary breakdown (Euro-direct and PCT-IP filings combined)

5 Forecasts for Euro-PCT-RP applications

5.1 Summary of this year's forecasts for Euro-PCT-RP applications

The results for Euro-PCT-RP applications at the EPO were obtained from question (k) in **Part B** of the questionnaire (see **Annex I**). 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. Unless explicitly stated otherwise, the results for the Random group are based on the full version of the dataset that includes cases with critical comments.

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 17**) and in terms of absolute numbers of filings with RMSEF values (**Table 18**). Firstly, Euro-PCT-RP filings are estimated for the Biggest group with no subsidiary breakdown (**Table 19**) and broken down by residence bloc (**Table 20**). 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 full Random group dataset (**Table 21**) and excluding companies with a critical code (**Table 22**). The same analysis is repeated with the Euro-PCT-RP filings itemised by residence bloc using the full dataset (**Table 23**) and again using only those respondents without critical codes (**Table 24**).

Estimates based on the Biggest group this year are in good agreement with the current expectation of actual Euro-PCT-RP filings in 2013 and, as was the case last year, the estimate without residence bloc breakdown is more precise.

Comparing the RMSEF of Random group forecasts, the analysis without residence bloc breakdown produces the best values and should thus be considered superior. The estimates without subsidiary breakdown, as shown in **Table 21**, thus continue to be preferred for Euro-PCT-RP applications. It should be noted, however, that as was the case last year, even the recommended approach fails to adequately convey expected true one-year growth. Indeed, the actual number of Euro-PCT-RP filings is just above the 95% confidence interval of the recommended forecast approach. Estimates employing a residence bloc breakdown (which is the recommended forecast for PCT-IP and Euro-direct filings this year) are even less optimistic than the recommended approach without any breakdown.

As was the case last year, one-year forecasts for Euro-PCT-RP filings have turned out to be too conservative. However, as was the case for the past two years, and regardless of the forecast method used, it is notable that two and three-year growth rate estimates exhibit a strong jump when compared to the one-year growth estimate for Euro-PCT-RP filings. Also the forecasts for 2015 are fairly similar for all scenarios.

Comparison of forecasts: Growth from 2012
Euro-PCT-RP

			2013		2014		2015	
Critical codes	**Group**	**Breakdown**	Growth rate	Deviation*	Growth rate	Deviation*	Growth rate	Deviation*
Including	Biggest	None	1.9%		10.7%		14.9%	
Including	Biggest	Residence bloc	3.5%		12.5%		19.5%	
Including	Random	None	-2.1%	3.8%	9.0%	3.9%	15.4%	7.4%
Including	Random	Residence bloc	-3.3%	4.5%	10.6%	6.0%	23.2%	15.8%
Excluding	Biggest	None	2.0%		10.9%		15.0%	
Excluding	Biggest	Residence bloc	4.4%		13.3%		20.6%	
Excluding	Random	None	-2.0%	3.8%	8.6%	4.0%	15.0%	7.7%
Excluding	Random	Residence bloc	-2.5%	4.1%	11.3%	5.7%	25.7%	16.4%

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

Table 17: 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

			2013				2014			2015		
Critical codes	**Group**	**Breakdown**	**Predicted filings**	**LCL**	**UCL**	**RMSEF***	**Predicted filings**	**LCL**	**UCL**	**Predicted filings**	**LCL**	**UCL**
Including	Biggest	None	87 006				94 576			98 168		
Including	Biggest	Residence bloc	88 432				96 086			102 042		
Including	Random	None	83 645	80 480	86 810	3 962	93 057	89 422	96 692	98 534	91 225	105 844
Including	Random	Residence bloc	82 572	78 828	86 317	5 065	94 451	88 787	100 116	105 218	88 639	121 798
Excluding	Biggest	None	87 129				94 745			98 201		
Excluding	Biggest	Residence bloc	89 136				96 769			103 010		
Excluding	Random	None	83 737	80 569	86 905	3 879	92 734	89 051	96 418	98 209	90 662	105 756
Excluding	Random	Residence bloc	83 251	79 798	86 704	4 382	95 054	89 683	100 424	107 385	89 772	124 997
		Actual filings	87 263									

*) **RMSEF:** Root mean squared error of forecast

Table 18: Overview of predicted filing numbers for Euro-PCT-RP applications by forecasting method

Biggest group (including critical codes)
No subsidiary breakdown
Composite Indices

			Year										
			2012	2013				2014			2015		
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Index 13	Predicted filings	Actual filings	Cases 14	Index 14	Predicted filings	Cases 15	Index 15	Predicted filings
EPO	Euro-PCT-RP	**Total**	**85 403**	**123**	**1.0188**	**87 006**	**87 263**	**105**	**1.1074**	**94 576**	**100**	**1.1495**	**98 168**
Growth from 2012						**1.9%**	**2.2%**			**10.7%**			**14.9%**

Table 19: Forecasts for Euro-PCT-RP applications – Biggest group (no subsidiary breakdown)

Biggest group (including critical codes)
Breakdown by residence bloc
Composite indices

			Year										
			2012	2013				2014			2015		
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Index 13	Predicted filings	Actual filings	Cases 14	Index 14	Predicted filings	Cases 15	Index 15	Predicted filings
EPO	Euro-PCT-RP	EP	36 598	67	0.9871	36 126	36 977	54	1.0975	40 166	49	1.1185	40 937
		JP	14 528	41	1.0428	15 149	15 407	38	1.0890	15 821	39	1.1206	16 280
		OT	10 624	4 *	1.0188	10 823	10 696	4 *	1.1074	11 765	4 *	1.1495	12 212
		US	23 653	11	1.1133	26 333	24 183	9	1.1979	28 335	8	1.3788	32 613
Total		**Total**	**85 403**	**123**		**88 432**	**87 263**	**105**		**96 086**	**100**		**102 042**
Growth from 2012						**3.5%**	**2.2%**			**12.5%**			**19.5%**

Table 20: Forecasts for Euro-PCT-RP applications – Biggest group (broken down by residence bloc)

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
EPO	Euro-PCT-RP	**Total**	**85 403**	**399**	**0.9794**	**0.0193**	**83 645**	**87 263**	**346**	**1.0896**	**0.0199**	**93 057**	**324**	**1.1538**	**0.0378**	**98 534**
		LCL					80 480					89 422				91 225
		UCL					86 810					96 692				105 844
Growth from 2012							**-2.1%**	**2.2%**				**9.0%**				**15.4%**
Deviation in % of forecast							**3.8%**					**3.9%**				**7.4%**

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

Random group (excluding critical codes)
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													
			2012	2013					2014				2015			
Patent office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
EPO	Euro-PCT-RP	**Total**	**85 403**	**376**	**0.9805**	**0.0193**	**83 737**	**87 263**	**323**	**1.0858**	**0.0203**	**92 734**	**301**	**1.1499**	**0.0392**	**98 209**
		LCL					80 569					89 051				90 662
		UCL					86 905					96 418				105 756
Growth from 2012							**-2.0%**	**2.2%**				**8.6%**				**15.0%**
Deviation in % of forecast							**3.8%**					**4.0%**				**7.7%**

Table 22: Forecasts for Euro-PCT-RP applications – Random group, excluding cases with critical comments (no subsidiary breakdown)

Random group (including critical codes)
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													
			2012	2013					2014				2015			
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
EPO	Euro-PCT-RP	EP	36 598	252	0.9838	0.0265	36 006	36 977	222	1.0756	0.0244	39 363	203	1.1127	0.0276	40 723
		JP	14 528	82	1.0082	0.0237	14 647	15 407	70	1.0886	0.0238	15 815	69	1.0958	0.0274	15 920
		OT	10 624	21	1.0558	0.0531	11 216	10 696	20	1.1643	0.0725	12 369	20	1.3369	0.0752	14 203
		US	23 653	44	0.8753	0.0724	20 703	24 183	34	1.1374	0.0939	26 904	32	1.4532	0.2320	34 373
Total		**Total**	**85 403**	**399**			**82 572**	**87 263**	**346**			**94 451**	**324**			**105 218**
		LCL					78 828					88 787				88 639
		UCL					86 317					100 116				121 798
Growth from 2012							**-3.3%**	**2.2%**				**10.6%**				**23.2%**
Deviation in % of forecast							**4.5%**					**6.0%**				**15.8%**

Table 23: Forecasts for Euro-PCT-RP applications – Random group (broken down by residence bloc)

Random group (excluding critical codes)
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													
			2012	2013					2014				2015			
Patent Office	**Filing route**	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Actual filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
EPO	Euro-PCT-RP	EP	36 598	240	0.9799	0.0269	35 862	36 977	211	1.0692	0.0250	39 132	192	1.1034	0.0282	40 383
		JP	14 528	77	0.9986	0.0239	14 508	15 407	65	1.0753	0.0233	15 621	64	1.0862	0.0273	15 781
		OT	10 624	19	1.0467	0.0559	11 120	10 696	17	1.1264	0.0816	11 967	17	1.2717	0.0886	13 510
		US	23 653	40	0.9200	0.0591	21 760	24 183	30	1.1979	0.0820	28 333	28	1.5943	0.2252	37 710
Total		**Total**	**85 403**	**376**			**83 251**	**87 263**	**323**			**95 054**	**301**			**107 385**
		LCL					79 798					89 683				89 772
		UCL					86 704					100 424				124 997
Growth from 2012							**-2.5%**	**2.2%**				**11.3%**				**25.7%**
Deviation in % of forecast							**4.1%**					**5.7%**				**16.4%**

Table 24: Forecasts for Euro-PCT-RP applications – Random group, excluding cases with critical comments (broken down by residence bloc)

5.2 Comparison with previous Patent Filings Surveys

Figure 8 and **Table 25** compare the forecast results of previous surveys since 2003 for Euro-PCT-RP applications, based on the Random group without subsidiary breakdown. As was done for Total filings (Euro-direct and PCT-IP filings) in **Section 3.2**, 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. The forecast numbers are given as percentage values of the actual filings in brackets.

For 2004 to 2006, forecasts for Euro-PCT-RP filings range from 90% to 101% of actual filings showing some apparent conservatism. From 2007 to 2009, forecasts range from 99% to 116% of actual filings, demonstrating a similar pattern as seen for Euro-direct and PCT-IP filings for the timeframe around the onset of the global financial crisis. Since 2010, forecasts have ranged from 96% to 102% of actual filings, indicating generally good precision for one, two and three-year growth.

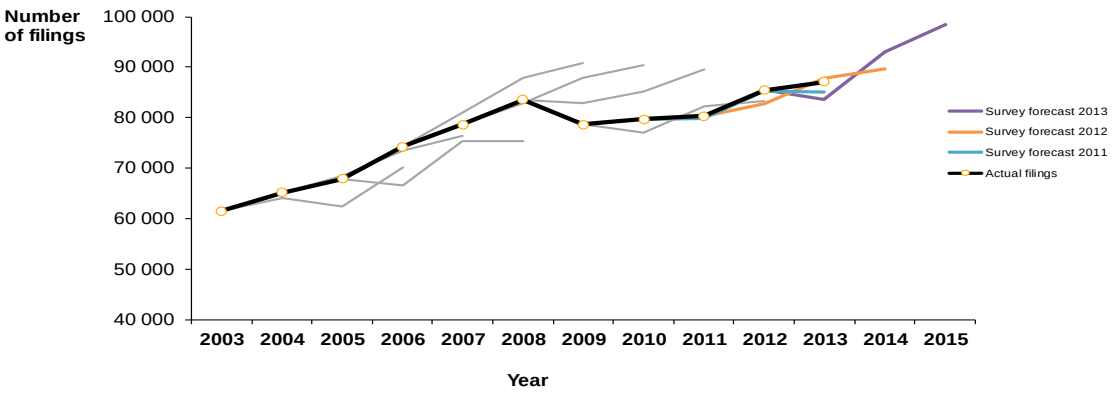


Figure 8: Comparison of forecasts for Euro-PCT-RP applications since 2003 (Random group with no subsidiary breakdown)

Number of filings* forecasted based on …	Forecasting Year												
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
… 2004 survey	**61 494**	**63 964**	**62 357**	**70 061**									
(in % of actual filings)	(=actual)	(98%)	(92%)	(94%)									
Lower confidence limit		*58 948*	*54 492*	*62 997*									
Upper confidence limit		*68 980*	*70 222*	*77 125*									
… 2005 survey		**65 201**	**68 550**	**73 542**	**76 418**								
(in % of actual filings)		(=actual)	(101%)	(99%)	(97%)								
Lower confidence limit			*64 799*	*67 556*	*69 045*								
Upper confidence limit			*72 300*	*79 528*	*83 790*								
… 2006 survey			**67 888**	**66 621**	**75 289**	**75 438**							
(in % of actual filings)			(=actual)	(90%)	(96%)	(90%)							
Lower confidence limit				*61 239*	*70 575*	*67 690*							
Upper confidence limit				*72 003*	*80 003*	*83 187*							
… 2007 survey				**74 227**	**80 951**	**87 796**	**90 850**						
(in % of actual filings)				(=actual)	(103%)	(105%)	(116%)						
Lower confidence limit					*75 440*	*80 581*	*82 977*						
Upper confidence limit					*86 463*	*95 011*	*98 722*						
… 2008 survey					**78 610**	**82 835**	**87 883**	**90 488**					
(in % of actual filings)					(=actual)	(99%)	(112%)	(114%)					
Lower confidence limit						*78 542*	*82 659*	*84 133*					
Upper confidence limit						*87 128*	*93 106*	*96 842*					
… 2009 survey						**83 512**	**82 815**	**85 085**	**89 653**				
(in % of actual filings)						(=actual)	(105%)	(107%)	(112%)				
Lower confidence limit							*79 723*	*80 006*	*83 818*				
Upper confidence limit							*85 907*	*90 165*	*95 488*				
… 2010 survey							**78 593**	**77 044**	**82 136**	**83 366**			
(in % of actual filings)							(=actual)	(97%)	(102%)	(98%)			
Lower confidence limit								*74 106*	*78 735*	*79 103*			
Upper confidence limit								*79 982*	*85 537*	*87 629*			
… 2011 survey								**79 681**	**79 855**	**85 232**	**85 012**		
(in % of actual filings)								(=actual)	(99%)	(100%)	(98%)		
Lower confidence limit									*76 616*	*79 186*	*74 080*		
Upper confidence limit									*83 093*	*91 278*	*95 944*		
… 2012 survey									**80 270**	**82 810**	**87 730**	**89 747**	
(in % of actual filings)									(=actual)	(97%)	(101%)	(N/A)	
Lower confidence limit										*79 783*	*83 678*	*84 938*	
Upper confidence limit										*85 837*	*91 783*	*94 556*	
… 2013 survey										**85 414**	**83 645**	**93 057**	**98 534**
(in % of actual filings)										(=actual)	(96%)	(N/A)	(N/A)
Lower confidence limit											*80 480*	*89 422*	*91 225*
Upper confidence limit											*86 810*	*96 692*	*105 844*
Actual filings	**61 494**	**65 201**	**67 888**	**74 227**	**78 610**	**83 512**	**78 593**	**79 681**	**80 270**	**85 414**	**87 084**	**N/A**	**N/A**

*) Euro-PCT-RP

Table 25: Comparison of forecasts for Euro-PCT-RP applications since 2003 (Random group with no subsidiary breakdown). Precision values (value of point estimate in % of true value) in brackets

6 Conclusions and outlook

In terms of Total filings (Euro-direct + PCT-IP), the 2013 survey predicts only modest growth for 2013. This appears to be in contrast to stronger actual filing growth from 2012 to 2013. Applicants from the US and the EP residence blocs are the least optimistic, with filing numbers from both residence blocs forecast to slightly decrease in 2013. The variability in one-year growth forecasts is somewhat larger this year than it was last year, indicating less certainty in expectations among respondents. Due to this variability, the currently expected actual filing number for 2013 is still within the 95% confidence limit of the recommended forecast.

For 2014 and 2015, the recommended survey scenario anticipates year-on-year growth of 5.8% followed by 2.5%, respectively.

Compared to last year's survey, the variability of one year ahead forecasts is modestly higher, while variability in two and three year ahead forecasts is similar. Of course, the stability of forecasts for the past two survey years should not lead to the conclusion that long-term observed growth is guaranteed to be close to this year's two- and three-year forecasts.

For Euro-PCT-RP filings, forecasts based on the Random group predict negative one-year growth, and the forecast based on the Biggest group without further breakdown anticipates 1.9% growth, while true growth from 2012 to 2013 was 2.1%. Two and three year ahead growth is anticipated to be strong at 9% and 15%, respectively, based on the recommended forecast for the Random group.

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 the diligent and full completion of the questionnaire is a time-consuming process. In order to be able to continue with a well-founded resource allocation process at EPO, we would like to appeal to all applicants that might be approached in the future to kindly answer the questions as far as they possibly can.

Please see the Annexes for information on the survey methodology and analysis of individual responses (Part A, Annexes I to III); and for further results (Part B, Annexes IV to IX). The further results include forecasts broken down by mega clusters (Annex IV); forecasts for applications at other patent offices (Annex V); respondents' profiles and analyses of company economic attributes, such as R&D budgets, inventions, inventors, first filings, and SME status (Annex VI). Applicants were also asked to assess the importance of their European patent portfolio, as well as to judge the relevance of combinations of certain types of intellectual property rights (Annex VII). Annex VIII reports on possible correction factors accounting for new applicants and applicants ceasing to file at the EPO. Finally, Annex IX gives details on this year's survey population and sample sizes.

ANNEXES PART A: SURVEY METHODOLOGY AND ANALYSIS OF INDIVIDUAL RESPONSES

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

7.1 Underlying population and target persons

The **underlying population** of the Patent Filings Survey comprises applicants who filed a patent application (excluding divisional filings) at the EPO in 2012. 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 2012, broken down by residence bloc (applicants for Euro-direct and Euro-PCT-RP, here excluding divisional filings[8]).

Residence bloc	Applicants (population)	%
EPC countries	21 745	54.2%
Japan	3 060	7.6%
USA	9 383	23.4%
Other countries	5 972	14.8%
Total	**40 160**	**100.0%**

Table 26: Population size (applicants for Euro-direct and Euro-PCT-RP in 2012)

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

[8] These use capitalised names from the database, as were also used for selecting the samples.

class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.68	0.49	0.74	0.64	0.67
2	2	2	0.14	0.14	0.12	0.14	0.14
3	3	3	0.06	0.07	0.05	0.06	0.06
4	4	5	0.05	0.08	0.04	0.06	0.05
5	6	9	0.03	0.06	0.03	0.04	0.04
6	10	19	0.02	0.06	0.02	0.03	0.03
7	20	39	0.01	0.04	0.01	0.02	0.01
8	40	and higher	0.01	0.05	0.01	0.01	0.01

Table 27: Grouped bloc-wise probabilities of existence of specific filing counts in 2012

The probability values in this table are almost the same as those in the previous survey.

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 2012.

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 covers the following key topics and is printed below. Parts A, B and C are broadly similar to the previous questionnaire that was used in 2012.

- **Current and future filings (Part B[9])**, split by
  - First and subsequent filings
  - Different procedures: Euro-direct, PCT international and national/regional phase, and national procedures
  - Different countries: Germany, United Kingdom, Japan, the US, Republic of Korea, People's Republic of China, and Other countries

[9] As in 2012, 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 permissible alternative because previous experience had shown that some interviewees had difficulties calculating growth rates from a single base year. However, for this report we adopted the convention of indicating growth rates with respect to the base year (in this case 2012).
Also, respondents were asked to fill in "zero" rather than leave the field blank for filing types and years with no activity. The follow-up calls were undertaken systematically in case certain forecasts were left blank. These actions resulted in a higher base of useful answers to calculate growth rates.
Applicants were also asked whether they were able to provide all the filing information asked for in the upper matrix of Section B of the questionnaire.

- **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. There is also a 15th box for "Other area(s), please specify". In addition, the number of inventions considered for patent applications and the proportion of R&D expenditure spent on activities that might lead to first patent filings.
- **Details of Patent Portfolio (Part D):** Total number of European patents in the portfolio across different time periods, importance of European patents in the portfolio, and monetary estimate of total value of European patents.
- **Various Types of Intellectual Property Rights (Part E):** Importance of various combinations of IP rights to the business, percentage of European patents in the portfolio that refer to products for which specific trademarks / registered designs are used, and number of trademarks and registered designs applications filed in 2012 and expected for 2013.
- **Company details**, such as organisation type **(Part A)**, number of employees and inventive staff (**Part C**), size of annual turnover (**Part C**), whether company is an SME (**Part C**), and when an organisation started applying at the EPO (**Part C**).
- General **comments** regarding the questionnaire (**Part F**).

Basic results of **Sections D** and **E** are documented in **Annexes VI** and **VII**.

There were several changes in the main part of the questionnaire compared to last year:

Section B:

a) UK National Patent Office, which had been removed in 2011, was added back in this year's survey.
b) The control question beneath the first matrix was simplified.

Section C:

a) The question "size of annual balance sheet (value of company's main assets)" was removed.
b) Questions on staff-related figures (total number, number involved in making inventions) were moved here from Part E in 2012. The other staff-related questions for 2012 (education, focus of activity) were removed.
c) The question on "proportion of overall R&D expenditure spent on activities that might lead to first patent filings" was moved here from Part D in 2012, and the comparison with the past removed.
d) The question on definition as SME was moved here from Part E in 2012. The question on cross-ownership was removed.

As usual, Sections D and E were extensively changed to include topical questions for the current survey.

Section D: This section now deals with European patents in the portfolio.

a) The question on number of European patents in the portfolio was moved here from Part E in 2012. The years to answer for were adapted. Other questions on the portfolio were removed (European patents bought in or sold, patents in pre-grant phase, patents filed visualising the advantage of unitary patent).

b) New questions were added to understand the importance of European patents in the portfolio, as well as on a monetary estimate of the total value of the European patents.

Section E: New questions were added to understand the relation of patents to trademarks and registered designs:

a) Combination of patents and trademarks / registered designs
b) Total number of trademarks and registered designs filings in 2012 and expected for 2013

The questionnaire was accompanied by an **official letter of recommendation from 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. The letter also states that guesses are welcome in case no exact figures can be retrieved. In addition, a **cover letter from Ipsos** 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. To cover the requirements of the contact persons, the letters and questionnaires were available in English, French, German, Japanese, Chinese (Simplified as well as Traditional), Italian, and Spanish.

Since there were changes to the questionnaire, it was pre-tested amongst twelve respondents (English and German versions). For this purpose, the correct contact persons were researched and contacted by telephone. If they agreed to take part in the survey, the draft questionnaire was sent via e-mail and fax and discussed by phone in a follow-up call. This meant that Ipsos not only received their answers but (mostly) 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 have been included in the analysis as far as possible.

The English version of the questionnaire is displayed below:

Europäisches Patentamt European Patent Office Office européen des brevets	Ipsos-ID / GROUP FA LEITER PATENTABTL ABTEILUNG STRASSE ORT **LAND**	**Please return to the EPO:** **+49-89-2399-1333** **filingsurvey@epo.org**

Questionnaire

for Patent Filings Survey

We assure you that all the information you provide will be treated as strictly confidential by the EPO as well as by Ipsos, 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 Ipsos, 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 Ipsos
- ☐ 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 2014 at http://www.epo.org/service-support/contact-us/surveys.html.
Please give your E-mail address in Section A above and we will let you know then.

B. Estimation of your levels of patenting activity throughout the world

Please give information on numbers of your patent filings in the two tables below. In case you are unable to give actual figures, indicate anticipated yearly growth rates as percentages (i.e. 2013 compared with 2012; 2014 compared with 2013; 2015 compared with 2014).

Please indicate the numbers of first filings[1] 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. Please enter "0" if you have no applications in a year/procedure, and a "X" if you do not know or do not want to tell.

			Filed 2012		Expected 2013		Expected 2014		Expected 2015	
			First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings	First filings[1]	Subse-quent filings
European patent applications under the EPC (excluding PCT)[2]		(a)								
International applications under the PCT (International Phase)		(b)								
National applications (excluding EPC and PCT) to the Patent Offices of these countries	Germany	(c)								
	United Kingdom	(d)								
	Japan	(e)								
	United States[3]	(f)								
	Republic of Korea	(g)								
	People's Republic of China	(h)								
	Other countries	(i)								
Worldwide Total First Filings		(j)								

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 from the counts any divisional applications.
3. Include provisional filings at USPTO in the cells for first filings of this row, and exclude all kinds of continuations.

Were you able to complete the table above with all the requested information regarding your activities?

☐ ***Yes*** ☐ ***No***

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

PCT applications entering the regional/ national phase at:		Entered 2012	Expected 2013	Expected 2014	Expected 2015
European Patent Office (EPO)	(k)				
United States Patent and Trademark Office (USPTO)	(l)				
Japan Patent Office (JPO)	(m)				
German Patent and Trade Mark Office (DPMA)	(n)				
China State Intellectual Property Office (SIPO)	(o)				
Korean Intellectual Property Office (KIPO)	(p)				

C. Your activities in total and in various sectors

Can you give us more information on your business activities, including turnover, staff, inventions, R&D budget as well as first patent filings? This will help EPO to develop its detailed plans.
Please indicate …

(a)	the approximate size of your annual turnover (total sales less rebates and taxes) in 2012 (specify currency):	
(b.1)	the approximate total number of staff employed at your organisation at the end of 2012:	
(b.2)	the number of these staff directly involved in making inventions that might be patented:	
(c)	the total number of distinct inventions in 2012 that led your organisation to consider making patent applications:	

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…

(d) …which of the following technical domains you believe contain(s) the **main area(s)** of your business. Please tick appropriate box(es).	**(e)** …the approximate size of your **R&D budget 2012 per domain** (specify currency)	**(f)** …the number of **first patent filings** that you actually made per domain **in 2012** throughout the world[4]. (Count each filing only once.)
☐ Audio, Video and Media		
☐ Biotechnology		
☐ Civil Engineering; Thermodynamics (including engines and pumps)		
☐ Computers		
☐ Electricity and Semiconductor Technology		
☐ Electrical and Electronic Technology		
☐ Handling and Processing		
☐ Medical and Consumer Technology (including agriculture)		
☐ Industrial Chemistry		
☐ Applied Physics		
☐ Polymers		
☐ Pure and Applied Organic Chemistry (including pharmaceuticals)		
☐ Telecommunications		
☐ Vehicles and General Technology (including transporting mechanisms, lighting)		
☐ Other area(s), please specify:		
TOTALS		

4 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 **Section B** of the questionnaire, **line (j)**.

(g) ***What proportion of your overall R&D expenditure is spent specifically on activities that might lead to first patent filings?***

Proportion of overall R&D expenditure:	%	

(h) ***In what year did your company / company part start applying for patents at EPO[5]?***

Please insert the year: ☐

5 Do not consider any other patent offices located in Europe. Note that EPO effectively started operations in 1978.

(i) ***Is your company one of the Small and Medium sized enterprises (SMEs) under the EU definition?***

Yes ☐ No ☐ Don't know ☐

NB: Essentially, the European Union defines a SME as follows: A private enterprise with a headcount less than 250, AND: EITHER a turnover less than or equal to 50 million Euro OR a balance sheet total less than or equal to 43 million Euro. The entity should not cross these limits after taking account of other enterprises that it controls or is controlled by.

D. Details of patent portfolio

In the following, **"European patents"** is to include patent applications that are still under consideration **at the EPO** as well as **EPO patents** that have been granted and are still maintained in at least one EPC contracting state's national office. Let one European patent grant count as one patent, even when validated later on at several national offices.

(a) ***Indicate the total number of European patents (including divisionals) in your portfolio at the end of the following years. (Note that the same patents may remain for several years in the portfolio.) (Please enter "0" in each box where there was no portfolio):***

Year:	2000	2005	2009	2010	2011	2012
Number of European patents **in portfolio**:						

(b) ***How important are the European patents that are in your portfolio to your business? Please tick the relevant box of the scale from 1 to 5.***

	Not important, we could do without it				Very important, essential to our business
	1	2	3	4	5
Importance of European patents in portfolio	☐	☐	☐	☐	☐

(c) ***Please give a monetary estimate of the total value of the European patents that are in your portfolio, if possible.***

Monetary value of European patents in portfolio (please specify currency): ☐

Comments:

E. Various types of

(a) ***How important are the following combinations of IP rights to your business, when applied to your processes and products? Please tick one box on each row to answer for each combination on a scale from 1 to 5.***

	Not important at all				Very important
	1	2	3	4	5
Patent only (no trademark, no registered design)	☐	☐	☐	☐	☐
Trademark only (no patent, no registered design)	☐	☐	☐	☐	☐
Registered design only (no patent, no trademark)	☐	☐	☐	☐	☐
Patent plus trademark (no registered design)	☐	☐	☐	☐	☐
Patent plus registered design (no trademark)	☐	☐	☐	☐	☐
Trademark plus registered design (no patent)	☐	☐	☐	☐	☐
Patent plus trademark plus registered design	☐	☐	☐	☐	☐

(b) ***What <u>percentage of the European patents in your portfolio</u> refer to products for which <u>specific trademarks</u> are or will also be used?***

Percentage of European patents in portfolio	%

(c) ***What <u>percentage of the European patents in your portfolio</u> refer to products for which <u>specific registered designs</u> are or will also be used?***

Percentage of European patents in portfolio	%

(d) ***How many <u>trademark</u> applications did you file in total in 2012, and how many do you expect to file in 2013? How many of these are <u>Community trademark applications</u>[6]?***
(Please enter "0" if you have no <u>applications</u> in a year/procedure)

	Filed 2012	**Expected 2013**
Total trademark applications (in all offices/systems worldwide)		
Of these: Community trademark applications (OHIM)		

(e) ***How many <u>registered design</u> applications did you file in total in 2012, and how many do you expect to file in 2013? How many of these are <u>Registered Community Design applications</u>[6]?***
(Please enter "0" if you have no <u>applications</u> in a year/procedure)

	Filed 2012	**Expected 2013**
Total registered design applications (in all offices/systems worldwide)		
Of these: Registered Community Design applications (OHIM)		

6 I.E. Applications that cover the whole European Union area, made either directly or indirectly to the Office for Harmonization in the Internal Market (OHIM).

Comments on how you use the various available types of IP rights

F. Further comments:

Please comment on any matters concerning this questionnaire
(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 a **combination of telephone and mail interviews**, and consisted of three steps.

7.3.1 International search for up-to-date telephone numbers

Telephone numbers were sought for the 2 827 EPO applicant addresses (Biggest and Random samples).
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

As in previous years, up-to-date telephone numbers could not be found for all applicants in the gross sample. It was most difficult to find telephone numbers for private inventors, for companies in the US and GB, and applicants in the "Other countries" category. All in all, it was not possible to find (correct) telephone numbers for a total of 176 addresses.

7.3.2 Telephone contact interviews

Following the search step, telephone contact interviews were conducted with applicants whose current telephone number 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 e-mail address or, where required, fax number 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 106 cases, the questionnaire and the accompanying letters were sent by fax only. However, the majority of applicants preferred to receive the documents by e-mail (1 787). Only eleven applicants received the documents by fax as well as e-mail. In eight of these cases the letters were sent by mail in addition, as fax delivery seemed not to be reliable.

The main contacting phase, i.e. sending the personalised questionnaires and accompanying letters to the participants, started on **6th May, 2013**.

From 30th July until 20th August, there was a summer break in European countries as was the case in previous years. During this time, fieldwork was not completely stopped at any point; the interviewers conducted previously agreed calls and incoming questionnaires were collected as usual.

7.3.3 Main interviews

The target respondents were offered several modes for returning a completed questionnaire: e-mail, fax, telephone, and post. Principally, the respondents were asked to send their questionnaire to the EPO office. If this did not suit their need for data protection, they could return the questionnaire directly to Ipsos and then their identity was not made known to EPO. Alternatively, the respondents could opt for a telephone interview.

Most questionnaires were completed by the target respondents themselves and sent back to the EPO by e-mail or fax. Compared to last year, e-mail response stayed at a high level (316 in 2009 vs. 496 in 2010 vs. 560 in 2011 vs. 631 in 2012 vs. 598 in 2013). A few responses (46) were collected directly through a follow-up telephone call.

Proactive fieldwork was finished by 13th September, 2013. However, to increase the number of responses, all complete questionnaires received by 27th September, 2013 were included in the analysis.

	Questionnaire sent to EPO							**Questionnaire sent to Ipsos**						
Return Type	2011	2012	**2013**	**EPC**	**US**	**JP**	**OT**	2011	2012	**2013**	**EPC**	**US**	**JP**	**OT**
E-mail	393	482	**454**	301	48	77	28	167	149	**144**	95	14	21	14
Fax / letter	168	84	**58**	30	3	24	1	4	6	**41**	20	5	16	-
Phone	-	-	**-**	-	-	-	-	50	36	**46**	38	2	6	-
Total	561 72%	566 75%	**512 69%**	**331**	**51**	**101**	**29**	221 28%	191 25%	**231 31%**	**153**	**21**	**43**	**14**

Table 28: The distribution of responses received by the EPO and by Ipsos

In total, **743 interviews** were realised in 2013. The number of responses is slightly lower than last year (757 interviews in 2012, 782 interviews in 2011, 804 interviews in 2010, 702 interviews in 2009, 772 interviews in 2008, 747 in 2007, and 772 in 2006).

Of these 743 participants in 2013, 173 also took part in the 2012 survey (according to raw capitalised names for both Random and Biggest groups, including boost samples). This rate of cases overlapping with the previous year's survey has continuously grown over the past three years, from 10% in 2010 (overlap with 2009), 15% in 2011 (overlap with 2010), 18% in 2012 (overlap with 2011) to 23% now in 2013 (overlap with 2012). This seems to be due to the changes in the sampling scheme applied, switching from ID codes to capitalised raw applicant names which was used for the cross-check with the previous year for the first time in 2013 for both sample groups.

Cases overlapping for 2012 and 2013 are split by region as follows:

	Total	EPC	US	JP	OT
Base: *Total number of interviews 2013*	*743*	*484*	*72*	*144*	*43*
Number of 2013 survey respondents also having participated in the 2012 survey	**173 23%**	96 20%	6 8%	63 44%	8 19%

Table 29: Cases overlapping for 2012 and 2013, split by region

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

	Total**		Biggest		Random	
	n	%	n	%	n	%
Total gross sample	**2 827**	**100.0**	**426**	**100.0**	**2 756**	**100.0**
Addresses not found	176	6.2	3	0.7	176	6.4
Addresses found	**2 651**	**94.0**	**423**	**99.0**	**2 580**	**94.0**
Dropouts (1)	519	19.6	45	10.6	504	19.5
Adjusted sample	2 132	80.4	378	89.4	2 076	80.5
Dropouts (2)	1 389	52.4	208	49.2	1 348	52.2
Total responses/ response rate*	**743**	**28.0**	**170**	**40.2**	**728**	**28.2**

(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 never available; company is being restructured or never available, etc.

(2) Number of refusals: questionnaire not returned; no time available for dealing with the matter; no interest in filling in the questionnaire; company policy; data too confidential; not able to collect requested data, etc.

*) Calculation: total responses over addresses found (response rate 2, see section 7.9.3)

**) Including additional addresses requested by EPO joint cluster managers

Table 30: Overview of samples and responses received

During the main interview phase, if necessary, the respondents were contacted several times by telephone, in order to realise both a high response rate and 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 Ipsos call centre in Munich. This facilitated efficient and reliable survey coordination.

All the 14 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. The 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.

The availability of the 2013 questionnaire in multiple languages was appreciated by the respondents, as mentioned in telephone calls.

7.4 Experiences during fieldwork

During fieldwork, the complexity of 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.

As introduced in 2010, the fieldwork in 2013 started about a month earlier than the start dates in 2009 or the years before. This enabled the fieldwork staff to progress better with initiating contacts/conducting follow-up calls with the respondents prior to the summer break. However, as in 2012, respondents again took much time to send back their replies so that a considerable number of follow-up calls were needed to motivate contact persons.

As in previous years, the contact phase was particularly difficult in the US. Again, there was an increasing difficulty to identify target persons within the companies, because there is an extended use of mailbox systems and often a policy not to put any phone call through unless a correct name of a contact person could be provided. So the response rate for the Random group in the US slightly dropped compared to 2012. On the other hand, there were more addresses available for fieldwork as there was an additional US boost sample. This means that the additional addresses did not result in a higher number of interviews, but were needed to compensate for an even larger drop-out. The absolute number of interviews in the US remained on the same level this year compared to 2012 (74 US Random group responses in 2012 compared to 72 in 2013).

However, since 2010, the situation that interviewers only got through if they had the name of the contact person has not only been encountered in the US, but also in European countries. In addition, refusals due to time restrictions, lack of interest or confidentiality of data are on the increase from year to year. Also a slightly increasing number of applicants were not willing to participate in the survey as they did not recognise the benefits. As every year, for some small enterprises and private inventors, the applicants found the questionnaire too difficult to fill in and more complicated than expected. Also some applicants that had participated in past years explained that they did not want to take part for the current year. This last factor naturally increases with the number of years the survey is conducted.

7.5 Questionnaire checks

Each returned questionnaire was checked in detail and corrected according to special rules agreed with the EPO. In cases where answers were not comprehensible, respondents were contacted again for clarification, if possible. Wherever reasonable, additional verbal information provided by the respondents was quantified and used to fill in missing figures in the questionnaire. Also some missing general company information (e.g. turnover, number of employees) was searched for and taken from web pages on the internet. All relevant modifications were recorded on a separate change list.

Rules were also applied 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, these were converted 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 was 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. The rules covered the following topics:

General rules:

- The worldwide total of first filings (line j 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), PCT-IP/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 f. If missing or implausible, the worldwide total of first filings was calculated according to the figures provided, or otherwise the total was deleted. The calculated sum can be interpreted as an estimation for the worldwide total of first filings.
- For non-EPC-respondents (US, JP, 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 for "critical codes" that can lead to removal from the analysis:

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 met:

- The numbers in any field under subsequent filings should be comparable (say, not more than three times as high) as the number under worldwide total first filings (line j) for the previous year.

- The numbers for PCT-NP/Euro-PCT-RP applications (PCT applications that entered the national/regional phase) in any field for 2014 and 2015 (lines k, l, m, n, o, or p) should be comparable to (say, not more than three times as high as) the combined figures under PCT-IP first filings and subsequent filings (line b) in 2012 and 2013, respectively.
- Any scenario that gave the impression of being dubious due to other reasons.

Specific rules resulting in an analysis as combined filings only:

In addition, a check was made whether 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:

- When a respondent indicated a more substantial number of first filings for offices that are not the home office, there should be subsequent filings in the following year. If there are only figures provided for the first filings column, this probably indicates that the respondent did not distinguish between first and subsequent filings but put them together.
- When a non-EPC 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 filings were put together.
- When there was a specific comment by the respondent that first and subsequent filings could not be distinguished (one case in 2013).

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

The following table shows the distribution of such cases in total (Biggest and Random groups put together) and broken down by residence bloc. This problem is slightly more relevant for applicants from the US, JP, and Other countries than for EP applicants.

	Total	**EP**	**US**	**JP**	**OT**
Total number of interviews	*743*	*484*	*72*	*144*	*43*
Cases without subsequent filings entered, but first filings	48 6%	18 4%	6 8%	14 10%	10 23%
Cases with subsequent filings in home office only	19 2%	0 0%	6 8%	11 8%	2 5%
Cases with first and subsequent filings not differentiated	1 0%	1 0%	0	0	0

Table 31: Distribution of cases that can be analysed at a higher level of aggregation only

7.7 Follow-up calls

In the previous years' surveys, it was noticed that many respondents sent back the questionnaire without providing most of the details critical for forecasting EPO patent applications (Section B, first matrix table). Since last year, follow-up calls were set up to collect the missing information in a more systematic and structured manner, which provided useful input in Section B for a higher completeness of answers. Hence, also during 2013, it was decided to focus the efforts on reconnecting or following-up with such respondents, and collecting the information in Section B as completely as possible for EPO procedures (lines (a) and (b) of the questionnaire).

Certain rules (referring to Section B, first and second matrix table) were set up to undertake these follow-up calls. A follow-up call was made for cases that …

- **Provided only base year filings but no forecast** for EPO procedures (a) and / or (b) **for 2013** (2014 and 2015 only asked for if a follow-up call was done anyway)
- **Did not provide any base year figures** (2012) for EPO procedures (a) and/or (b)
- **Did not have at least one EPO application** in line (a) or (k) in base year 2012 (as sampling was restricted to such applicants at the EPO in 2012)
- **Indicated percentage growth rates for 2013-2015 based on zeros or blanks** (Growth rates indicate that respondent wanted to communicate some information. So this information needed to be checked in order to be meaningful.)

In total, 252 questionnaires led to a follow-up process to get the missing information. However, about 400 calls were required to handle these 252 questionnaires. This means a considerable effort was made to reach the 252 respondents, as there were drop-outs for various reasons such as contact not reachable, number busy, re-directed to mailbox, etc.

Structure of reasons for follow-up calls

Table 31 shows that the key reason for undertaking the follow-up calls was blank responses to questions related to estimation of future patenting activities at the EPO in 2013 (85%). Other reasons were related to implausible statements regarding sampling conditions, missing information, etc.

Reasons for follow-up calls

Base: Questionnaires requiring a follow-up call	*252*
BLANK for EPO filings in (a) and/or (b) for 2012 & 2013	71%
BLANK for EPO filings in (a) and/or (b) for 2013	14%
No EPO filings (zero or BLANK) in (a) and (k) for 2012	10%
Information is missing / unclear information	2%
Pre-test follow-up	2%
Others	1%

Table 32: Reasons for follow-up calls

Results of follow-up calls

It was observed that the follow-up calls had a 67% success rate (gaps from 169 respondents out of 252 were filled in). This rate has increased since last year when it was 47% (gaps from 132 respondents out of 279 were filled in).

Results of follow-up calls	**Changes made**	**No changes**	**Not reached**
BLANK for EPO filings in (a) and/or (b) for 2012 & 2013	77%	11%	13%
BLANK for EPO filings in (a) and/or (b) for 2013	47%	47%	6%
No EPO filings (zero or BLANK) in (a) and (k) for 2012	50%	31%	9%

Table 33: Results of follow-up calls

As a result of the follow-up calls, completeness of responses for the EPO procedures Euro-direct (line (a)) and PCT-IP filings (line (b)) remains on the same high level as in 2012. These are significantly higher than in 2011 when follow-up calls did not yet follow the systematic rules.

Euro-direct (a) and PCT-IP (b): Completeness of responses – by year	**2011**	**2012**	**2013**
Base: Total Interviews Achieved	*782*	*757*	*743*
Filled (a) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	55%	77%	77%
Filled (a) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	51%	64%	65%
Filled (a) for all years (FF+SF)	49%	61%	62%
Filled (b) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	53%	75%	76%
Filled (b) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	49%	61%	65%
Filled (b) all years (FF+SF)	46%	58%	62%
Filled both (a) and (b) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	49%	72%	74%
Filled both (a) and (b) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	46%	59%	62%
Filled both (a) and (b) for all years (FF+SF)	43%	56%	59%

Table 34: Completion level for Euro-direct and PCT-IP after follow-up calls by year

With regard to completeness of responses for Euro-PCT-RP filings (line k in 2013 and line j in 2012/2011, respectively) there is a slight increase from 2012 to 2013 although follow-up calls only unsystematically asked for this procedure if the call was done anyway for another reason. This level is again as high as it was in 2011, when no systematic follow-up calls were done at all.

Euro-PCT-RP (k) **Completeness of responses – by year**	**2011**	**2012**	**2013**
Base: Total Interviews Achieved	*782*	*757*	*743*
Filled (k) first two years (2010/11; 2011/12; 2012/13)	75%	73%	**78%**
Filled (k) for first two forecasting years (2011/2012; 2012/2013; 2013/2014)	68%	63%	**68%**
Filled (k) for all years	64%	58%	**64%**

Table 35: Completion level of responses for Euro-PCT-RP after follow-up calls in 2013

With regard to the positions of the respondents within companies, the following table suggests that respondents from senior staff or top management gave slightly less complete answers for some procedures/years than the respondents from patent/IP or technology departments and those that did not indicate whether or not they hold a higher level position. In addition, patent or IP attorneys or other members of general legal departments seem to have less complete ideas about future filings (2014/2015) at the EPO.

Euro-direct (a) and PCT-IP (b): Completeness of responses 2013 – by position	**Total**	**Top mana-gemt.**	**Senior patent /IP/ tech dept.**	**Other patent /IP/ tech dept.**	**Patent / IP attorney, legal dept.**	**Others**
Base: Total Interviews Achieved	*743*	*55*	*164*	*260*	*76*	*53*
Filled (a) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	**77%**	73%	79%	78%	78%	75%
Filled (a) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	**65%**	60%	68%	67%	59%	66%
Filled (a) for all years (FF+SF)	**62%**	60%	63%	65%	55%	64%
Filled (b) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	**76%**	73%	76%	79%	72%	74%
Filled (b) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	**65%**	62%	66%	68%	62%	66%
Filled (b) all years (FF+SF)	**62%**	62%	62%	65%	53%	64%
Filled both (a) and (b) first two years (FF+SF) (2010/11; 2011/12; 2012/13)	**74%**	73%	73%	77%	71%	74%
Filled both (a) and (b) for first two forecasting years (FF+SF) (2011/2012; 2012/2013; 2013/2014)	**62%**	60%	63%	66%	55%	66%
Filled both (a) and (b) for all years (FF+SF)	**59%**	60%	60%	63%	49%	64%

Table 36: Completion level for Euro-direct and PCT-IP after follow-up calls in 2013 by positions within companies

7.8 Respondents' reactions to the questionnaire

As usual, 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.

More than in previous years, this resulted in a significant time lag between the initial contact and the response. So, a substantial number of follow-up calls (in many cases 8 to 12 calls) were required to remind and encourage respondents to complete the questionnaire, and to assist respondents with explanations about the questions.

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

- Difficulty providing the information due to unavailability of the data
    - Some organisations do not record the requested data
    - Data are only available for a larger/another part of the company than that requested
    - Data are not recorded in the required structure
    - Data are not available because the company is currently under transition
- 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

7.9 Non-response analysis and response rates

7.9.1 Address qualification

In 2013, it was possible to obtain 423 telephone numbers for 426 Biggest addresses (nearly 100%) 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 slightly lower than the percentage in the previous year (94% in 2013 vs. 96% in 2012 vs. 94% in 2011 vs. 89% in 2010 vs. 95% in 2009).

7.9.2 Losses

In 2013, 5% of the addresses found for the Biggest group were identical with, or included in, another company. A further 5% had to be classified as non-systematic losses. Addresses were classified as losses in case of general drop-out not due to a refusal of the company or contact person (reasons such as no availability, no appropriate contact found/mailbox system, technical problems or language problems, company no longer exists, etc.).

In the Random group, 6% of the addresses found were identical to, or included in, another applicant in the sample. Compared to 2012, this rate is about on the same level, due to the EPO’s continuing efforts to eliminate identical addresses from the gross sample by assigning applicants using capitalised names. Another 14% were non-systematic losses (2012: 9%).

In the Biggest group, a first contact was established for 89% of the 426 gross addresses (= "adjusted sample B", 2012: 86%). This figure was lower in the Random group (75% of 2°756 gross addresses), which is also lower than in the previous year (82%). In the US, which is an important region for analysis, the quota of usable Random group contacts decreased compared to 2012 (62% in 2013 compared to 76% in 2012).

In absolute numbers, the usable number of contacts in the Random sample (adjusted sample B) is lower than in 2012, but higher than in 2011 (2 076 addresses for the Random group in 2013 compared to 2 268 addresses in 2012 and 2 060 addresses in 2011).

7.9.3 Response rates

As in previous years, in 2013 the general response rate was higher in the Biggest group than in the Random group. In terms of addresses found, **Table 30** shows that the overall response rate was 28%; 40.2% in the Biggest group, and 28.2% in the Random group.

In the following more detailed **Table 37** and **Table 38,** response rates are primarily in terms of percentages against adjusted sample B (equivalent to "adjusted sample" in Table 30) ("Response rate 1"). Alternative response rates against the numbers of addresses found ("Response rate 2") include duplicates (according to names/addresses) and non-systematic losses in the denominator and are therefore lower than response rate 1.

Referring to adjusted sample B, the overall response rate was 45% (response rate 2 calculated over addresses found: 40%) in the Biggest group, and 35% (response rate 2: 28%) in the Random group. Compared to the previous year, there is a minor improvement in both groups (2012: 44%, 2011: 46% response rate in the Biggest group; 2012: 33%, 2011: 37% and 2010: 43% in the Random group).

In terms of regions, the response rate improved for Japan (both Biggest and Random groups) and EPC countries (Random group), while it dropped in the US (Random group) and in the "Others" region (both Biggest and Random groups).

The response rate for **EPC** countries/Random group increased from 38% in 2012 to 44% in 2013 (response rate 2: 38%). However, much higher response rates were achieved for some EPC countries like Belgium (62%), Sweden (58%), France (54%), Denmark (53%), Finland (52%), and Netherlands (48%). On the other hand, response rates for UK (22%) and Italy (36%) turned out to be below average. With regard to absolute numbers of interviews, the level of interviews achieved dropped for EPC countries in the Random group compared to 2012 (480 interviews achieved in 2013 vs. 491 interviews in 2012). The reason for this is as follows: because there were US boost addresses added to the Random gross sample, the number of total gross EPC addresses drawn for the Random group in 2013 was reduced in order to keep the total number of addresses on a similar level as in 2012.

For EPC countries of the Biggest group, the response rate as well as the number of successful interviews have also decreased slightly from 94 interviews in 2012 to 86 interviews in 2013.

In **Japan**, the response rates improved in 2013 in both sample groups: 70% (response rate 2: 69%) in the Biggest group (2012: 62%) and 58% in 2013 (response rate 2: 54%) in the Random group (2012: 50%).

For the **US**, it remained stable at 18% in the Biggest group in 2013 as in 2012 (response rate 2: 14%), and slightly dropped from 14% in the Random group in 2012 to 13% in 2013 (response rate 2: 9%). This drop resulted in about the same absolute number of interviews in 2013 and 2012, but in 2013 there were more gross addresses available due to the additional US boost sample. So in 2013 more addresses were needed to get the same absolute number of interviews as in 2012.

For the "**Others**" countries of the Biggest group, the response rate decreased further from 32% in 2012 to 21% in 2013 (response rate 2: 18%), and of the Random group from 24% in 2012 to 22% in 2013 (response rate 2: 18%).

The third columns from the right in both **Table 37** and **Table 38** show the numbers of responses achieved from blocs and countries of origin. **Table 39** shows in addition the numbers of responses by origin from the combined samples. Reasons for non-response are explained in **Table 40** (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[D1]	Adjusted sample B	Number of refusals[D2]	Number of interviews	Response rate 1*	Response rate 2**
EPC	BE	7	0	7	0	7	0	7	5	2	29%	29%
EPC	CH	18	0	18	1	17	2	15	9	6	40%	33%
EPC	DE	80	0	80	7	73	1	72	42	30	42%	38%
EPC	DK	5	0	5	0	5	0	5	3	2	40%	40%
EPC	FI	7	0	7	0	7	1	6	2	4	67%	57%
EPC	FR	31	0	31	2	29	0	29	9	20	69%	65%
EPC	GB	7	0	7	0	7	0	7	3	4	57%	57%
EPC	IE	3	1	2	0	2	0	2	1	1	50%	50%
EPC	IT	4	0	4	0	4	0	4	2	2	50%	50%
EPC	LU	2	0	2	0	2	0	2	2	0	0%	0%
EPC	NL	12	0	12	0	12	0	12	5	7	58%	58%
EPC	SE	11	0	11	0	11	1	10	5	5	50%	45%
EPC	Others	7	1	6	1	5	1	4	1	3	75%	50%
EPC	**Total**	**194**	**2**	**192**	**11**	**181**	**6**	**175**	**89**	**86**	**49%**	**45%**
JP	**JP**	**90**	**0**	**90**	**1**	**89**	**0**	**89**	**27**	**62**	**70%**	**69%**
US	**US**	**90**	**0**	**90**	**8**	**82**	**10**	**72**	**59**	**13**	**18%**	**14%**
OT	CN	31	1	30	1	29	4	25	21	4	16%	13%
OT	KR	11	0	11	0	11	1	10	7	3	30%	27%
OT	Others	10	0	10	1	9	2	7	5	2	29%	20%
OT	**Total**	**52**	**1**	**51**	**2**	**49**	**7**	**42**	**33**	**9**	**21%**	**18%**
Total	**Total**	**426**	**3**	**423**	**22**	**401**	**23**	**378**	**208**	**170**	**45%**	**40%**

1 Without addresses requested by EPO joint cluster managers

D1) Both columns sum up to Dropouts (1) in **Table 30**

D2) This column refers to Dropouts (2) in **Table 30**

*) Calculation: number of interviews over adjusted sample B

**) Calculation: number of interviews over addresses found

Table 37: Non-response statistics – Biggest group (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	42	0	42	6	36	0	36	18	18	50%	43%
EPC	BE	29	0	29	3	26	0	26	10	16	62%	55%
EPC	CH	110	4	106	13	93	9	84	47	37	44%	35%
EPC	DE	458	12	446	20	426	14	412	245	167	41%	37%
EPC	DK	37	0	37	1	36	2	34	16	18	53%	49%
EPC	ES	42	0	42	2	40	3	37	21	16	43%	38%
EPC	FI	29	0	29	1	28	3	25	12	13	52%	45%
EPC	FR	154	0	154	20	134	9	125	58	67	54%	44%
EPC	GB	95	9	86	5	81	8	73	57	16	22%	19%
EPC	IE	11	2	9	0	9	0	9	5	4	44%	44%
EPC	IT	100	9	91	1	90	5	85	54	31	36%	34%
EPC	NL	68	2	66	1	65	4	61	32	29	48%	44%
EPC	SE	59	2	57	3	54	6	48	20	28	58%	49%
EPC	Others	73	17	56	2	54	9	45	25	20	44%	36%
EPC	**Total**	**1307**	**57**	**1250**	**78**	**1172**	**72**	**1100**	**620**	**480**	**44%**	**38%**
JP	**JP**	**255**	**7**	**248**	**12**	**236**	**6**	**230**	**96**	**134**	**58%**	**54%**
US	**US**	**905**	**59**	**846**	**53**	**793**	**235**	**558**	**486**	**72**	**13%**	**9%**
OT	BR	11	0	11	0	11	1	10	8	2	20%	18%
OT	CA	22	1	21	0	21	3	18	8	10	56%	48%
OT	CN	55	10	45	6	39	3	36	26	10	28%	22%
OT	IL	30	8	22	2	20	6	14	11	3	21%	14%
OT	KR	55	13	42	3	39	7	32	26	6	19%	14%
OT	TW	36	2	34	0	34	1	33	28	5	15%	15%
OT	Asia others	51	6	45	1	44	8	36	34	2	6%	4%
OT	Others	29	13	16	0	16	7	9	5	4	44%	25%
OT	**Total**	**289**	**53**	**236**	**12**	**224**	**36**	**188**	**146**	**42**	**22%**	**18%**
Total	**Total**	**2756**	**176**	**2580**	**155**	**2425**	**349**	**2076**	**1348**	**728**	**35%**	**28%**

1 Without addresses requested by EPO joint cluster managers D1) Both columns sum up to Dropouts (1) in **Table 30** D2) This column refers to Dropouts (2) in **Table 30**

*) Calculation: number of interviews over adjusted sample B **) Calculation: number of interviews over addresses found

Table 38: Non-response statistics – Random group (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	0	18	18
EPC	BE	2	16	17
EPC	CH	6	37	37
EPC	DE	30	167	168
EPC	DK	2	18	19
EPC	ES	2	16	16
EPC	FI	4	13	13
EPC	FR	20	67	67
EPC	GB	4	16	17
EPC	GR	0	3	3
EPC	IE	1	4	4
EPC	IT	2	31	31
EPC	NL	7	29	29
EPC	NO	0	5	5
EPC	PL	0	3	3
EPC	SE	5	28	28
EPC	Others	1	9	9
EPC	**Total**	**86**	**480**	**484**
JP	**JP**	**62**	**134**	**144**
US	**US**	**13**	**72**	**72**
OT	CA	0	10	10
OT	CN	4	10	11
OT	IL	0	3	3
OT	KR	3	6	6
OT	TW	1	5	5
OT	Others	1	8	8
OT	**Total**	**9**	**42**	**43**
Total	**Total**	**170**	**728**	**743**

1 Without addresses requested by EPO joint cluster managers

2 Including addresses requested by EPO joint cluster managers

Table 39: Respondent structure

LOSSES[1]			REFUSALS[1]		
Appropriate contact not found / mailbox system	158	44%	Didn't return questionnaire	740	54%
Contact never available	74	21%	Not interested	174	13%
Company is never available	51	14%	No time	148	11%
Company is being restructured	18	5%	Not able to identify/collect data	65	5%
Company no longer exists	17	5%	No reason given	64	5%
Technical problems (fax, e-mail address not working)	16	4%	Company policy	58	4%
Language problems	7	2%	Data too confidential	47	3%
Contact is sick/on vacation	8	2%	No name policy*	25	2%
Company will be liquidated	6	2%	External attorney costs / too expensive	17	1%
Affected by an earthquake (Italy)	1	0%	Data security	16	1%
			Questionnaire too complicated	11	1%
			Questionnaire too long	10	1%
			Participated in other EPO survey	3	0%
			Other reasons	3	0%
Total	**356**	**100%**	**Total**	**1381**	**100%**

1 Without addresses requested by EPO joint cluster managers

* = Blocking operators in case no correct contact name is available

Table 40: Reasons for non-response – Biggest and Random groups

7.9.4 Item non-response

Apart from the overall response rates, there are different response rates for different parts of the questionnaire. The completion rates of the questionnaire were 99% for Part B (same level as in 2012), 96% for Part C (94% in 2012), 87% for Part D, and 86% for Part E. The following percentages indicating completeness show the number of respondents with at least one answer in the respective part/question based on number of total interviews achieved (not to be mixed up with response rates based on gross addresses as indicated above). These gratifyingly high percentages hide cases where not all questions were answered for one part (see **Table 41**).

	Total[2]		Biggest[1] (incl. overlap)		Random[1] (incl. overlap)	
Base: no. of interviews	*743*		*170*		*728*	
Part B overall	737	99%	166	98%	723	99%
Part B (at least one of Ba or Bb in at least one year)	728	98%	165	97%	714	98%
Part B (at least one of Ba or Bb in at least one of 2013-15)	673	91%	147	86%	660	91%
Part B (at least one of Ba or Bb in 2013)	671	90%	147	86%	658	90%
Part B (at least one of Ba or Bb in 2014)	584	79%	128	75%	572	79%
Part B (Bk)	664	89%	152	89%	650	89%
Part C overall[3]	713	96%	163	96%	698	96%
Part C technical domain (Cd)	642	86%	146	86%	627	86%
Part C R&D budget (Ce)	337	45%	84	49%	331	45%
Part C first filings 2012 (Cf)[4]	713	96%	162	95%	700	96%
Part D overall[3]	643	87%	147	86%	628	86%
Part E overall[3]	641	86%	149	88%	626	86%

1 Without addresses requested by EPO joint cluster managers

2 Including addresses requested by EPO joint cluster managers

3 Verbal comments are not included in counts

4 Cases with transfer of total worldwide filings from Part B to Part C are included here

Table 41: Partial response rates – Biggest and Random groups

In total (Biggest and Random groups), out of 743 complete interviews, 728 responses (746 in 2012) provided information for either Euro-direct or PCT-IP (B(a) or B(b)) for at least one year / first or subsequent filings). A lower number (673) provided figures for at least one forecasting year 2013-2015 for either Euro-direct or PCT-IP filings. As the overall number of interviews went down compared to 2012, this has further decreased compared to previous years (696 in 2012 and 715 in 2011). There is no effect of follow-up calls to be seen here because they seem to have been most successful if the respondent had already given some figure(s) on a certain procedure and only needed to complete the respective data row.

664 responses (662 in 2012) could be used for Euro-PCT-RP applications (B(k)).

642 respondents (682 in 2012) provided information on the technical area(s) that they are active in. However, 193 of these respondents noted their technical area(s) in the "Other areas" line (189 in 2012). Where possible (in 190 cases), these responses were allocated to one of the 14 joint clusters by Ipsos ex post. 337 responses (295 in 2012, 338 in 2011, 314 in 2010, and 239 in 2009) contributed to the analysis of R&D budgets (C(e) – the increase in this response was due to secondary research work of looking at the company website/annual report which was carried out by the agency, and which resulted in getting additional information for 54 cases).

In the **Biggest group** (including overlap), out of 170 complete interviews, 165 cases provided information for either Euro-direct or PCT-IP (B(a) or B(b)) for at least one year / first or subsequent filings (equivalent response rate 2 over addresses found: 39%, which is about the same as the rate in the previous year: 38%). Of these, 147 responses provided figures for at least one forecasting year 2013-2015 for either Euro-direct or PCT-IP filings. 152 responses provided useful information on Euro-PCT-RP applications B(k) (equivalent response rate 2: 36%, which is about the same as in 2012). For Section C, 163 respondents answered at least one question (equivalent response rate 2: 39%; which is more respondents than in 2012: 149), and 84 responses contributed to the analysis of R&D budgets C(e) (equivalent response rate 2: 20% compared to 15% in 2012). 147 respondents provided useful answers to the Section D questions (equivalent response rate 2: 35%), while 149 respondents provided information on Section E (equivalent response rate 2: 35%).

In the **Random group** (including overlap), out of 728 complete interviews, 714 responses provided information for either Euro-direct or PCT-IP (B(a) or B(b)) for at least one year / first or subsequent filings (equivalent response rate 2: 28%, which is almost the same as for the previous year). Of these, 660 responses provided figures for at least one forecasting year 2013-2015 for either Euro-direct or PCT-IP filings. 650 responses supplied useful information on Euro-PCT-RP applications B(k) (equivalent response rate 2: 25% compared to 24% in 2012). For Section C, 698 respondents answered at least one question (equivalent response rate 2: 27% compared to 26% in 2012) and 331 responses were used for the analysis of R&D budgets C(e) (equivalent response rate 2: 13% compared to 11% in 2012). 628 respondents answered Section D questions (equivalent response rate 2: 24% same as 24% in 2012), while 626 respondents provided information on Section E (equivalent response rate 2: 24% compared to 26% in 2012).

8 Annex II: Verbal comments received from participants

8.1 Multiple comments

The table below lists a selection of additional verbal comments that were received multiple times (excluding answers to open-ended questions/comment sections which are not considered here). 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. The comments may refer to more than one of the questions in the particular part mentioned. Comments given in Part F sometimes explicitly referred to other parts of the questionnaire and are counted there.

Questionnaire part:	**B**	**C**	**D**	**E**	**F**	**Total**
	Absolute frequency of comments					
No answer / data not available / not collecting data in in requested structure/ do not know	41	90	137	42	33	**343**
Confidential	9	14	8	5	10	**46**
Difficult to provide figures / hard to estimate / estimation only (individual inventor, unclear cost situation with European patent, merger, switch to other procedure, start-up company, etc.)	48	2	8	1	4	**63**
Unclear question / terminology	7	8	11	11	2	**39**
Total	**105**	**114**	**164**	**59**	**49**	**491**

Table 42: Numbers of multiple verbal comments

8.2 Individual comments (selection)

8.2.1 Individual comments on patenting strategy and development

- The figures refer to our company which is part of a multinational group. Patents assigned to our company are often jointly developed with other companies in the group, also patents developed partly within our company are sometimes assigned to other companies in the group.
- We use patents to protect the technology we develop so that we can license it.
- We do not have goals with respect to the number of IP filings per year, so it is hard to predict the number of filings for 2013 (or the coming years). We file whenever we think this is necessary. We do want to increase the number of filings per year, first filings will mainly be in BE, of which probably most will be extended to EP.
- As a research company, patents are mainly used to maximise market position and gain competitive advantage.

- Our patented products have been put into production and sales, prompting good market moves. They are an important source of income for our company.

8.2.2 Individual comments on value of European Patent portfolio

- A high proportion of our sales are protected by patents; but it is hard to project a value on European patents alone.
- It is difficult to place a monetary estimate on the total value of European patents at this time.
- The value of our European patents cannot be seen in isolation from counterparts in other countries. Also we did not define the portfolio in monetary terms.
- Mostly people/media mix-up actual value realised from the portfolio through all types of licensing, sales, assets deals, premium profits, etc. and potential value of the patent portfolio if you would sell that to a third party on the market against fair value. In addition, for a company having global activities the patent portfolio also generates value on a global basis.
- European patents don't generate value in isolation from the rest of the patent portfolio. Based on relative size of European market compared with other major markets, we made the above estimate of the actual value realised from European Patents.

8.2.3 Individual comments on use of IP Rights

- We protect our Intellectual Property primarily with the help of patents.
- Patent protection is essential to ensure that our ideas are commercially viable and investment by associated companies is protected.
- We use an integrated IP management approach, where we look at the various forms of IP (patents, trademarks, designs, domain names, copyrights, trade secrets) to create optimum protection of our businesses and leverage that creates most value for those businesses.
- (Our) technology has traditionally been protected mainly by patents and utility models, but the business environment requires an increasing amount of designs to be registered.
- It is in the nature of our business that many of our patents relate to inventions which turn out not to be commercialised. However, if a product is approved by regulatory officials, we would try to have both patents and trademarks covering it.
- According to our current policy, we only file trademarks related to the company names within the group and not related to products.
- Registration of marks is for value improvement of our brand, to carry out appropriate use legally. And also for using and licensing in consideration of an effective brand solicitation method.
- We develop active ingredients, used by others to produce diagnosis kits. So we [consider] the patent to be essential, but not the registered design, maybe in the future we will use the trademark too.

- Applying for both design and patent in main markets: Europe, China and US. If we get the patent, we will cancel the design.
- Because we are a public institute (non-profitable institution), we use obtained IP rights for third parties, to bring implementation contracts, or to give encouragements for collaborative research.
- Patenting is used for prophylactic purposes, licensing and litigation, trademarks are used for brand protection and, secondarily, for product protection, and finally, designs are used for product protection.

8.2.4 Individual comments on EPC system/EPO quality

- From EPO, our inventors receive mailed materials often. But these mailed materials cause confusion for inventors, because they have no idea about patent proceeding or procedural steps.
- For planning resources, also the current duration of the patenting procedure should be considered. If two years pass without any reaction from the EPO though it was a PACE application, resources either are too low or are not efficiently used. The EPO should consider allocating not only graduates as examiners, but also graduates that already have sufficient job experience.
- We would appreciate the EPO process being further simplified similar to the process of filing in one single country.

9 Annex III: Analytical methodology

This Annex explains the methodology used for forecasting growth in EPO filings. While different forecast approaches employing no breakdown or specific breakdown types (e.g residence bloc breakdown or different filing types such as Euro-Direct or PCT-IP) are shown within the report, the core methodology used remains the same.

9.1 Growth rate averaging via the Q-index

For the Random group, a weighted average is made of the individual growth rates determined per respondent after logarithmic transformation. The Q-index is the exponent of this weighted average.

If $x_{i,r}$ is the intended number of filings reported by the *i*-th respondent for the year *r* of interest, and A_i is the known number of filings made by the *i*-th respondent in the base year, then

$$l_{i,r} = \frac{x_{i,r}}{A_i}$$

is the individual growth index for applicant *i* in the year *r*. The Q-index averages these individual growth indices on a logarithmic scale using Poisson weights q_i (see following section), and is calculated as

$$Q_r = exp\left[\frac{\sum_{i=1}^{n} q_i \log(l_{i,r})}{\sum_{i=1}^{n} q_i}\right].$$

The logarithmic transform was introduced in the Applicant Panel Survey 2002 report, Annex IV.

9.2 Poisson weighting of Random group forecasting results

The established method 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 database.[10]

The Poisson weight for each respondent is calculated as

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

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

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 year. For this year's sample, A = 138 202 (excluding divisional filings) and n^+ = 4 100. For the US booster to the Random group, A = 30 542 and n^+ = 675. But it was decided to treat US booster group respondents as if they had been members of the main Random group, and they were weighted accordingly.

9.3 Assessing variability of estimates and calculating confidence intervals

The variability of $\log(Q_r)$ is given by its raw variance

$$Var(\log(Q_r)) = \frac{\sum_{i=1}^{n}(\log(l_{i,r}) - \log(Q_r))^2 q_i^2}{(\sum_{i=1}^{n} q_i)^2},$$

which is then corrected by applying a finite population correction based on the proportion $FPC = \frac{A_b}{A}$ of filings present in the sample, where A_b is the number of base year filings accounted for in the survey, and A is the total number of known filings at the EPO for the base year. Thus

$$VAR_{FPC\ corrected} = Var(\log(Q_r)) * (1 - FPC)$$

is the FPC-corrected variance, the square root of which is reported as the standard error of growth estimates in tables throughout this report. Depending on the breakdown employed for a specific forecast, a global or a residence-specific FPC-corrected variance is calculated.

Finite population correction (FPC) 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	0.27
EP	0.30
JP	0.50
OT	0.09
US	0.13

Table 43: Finite population correction values by residence bloc

The FPC 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 IX**, where numbers of applications are higher for applicants responding than for applicants asked, although, of course, the numbers of applicants responding are smaller than the numbers of applicants asked). This year's FPC values are quite similar to those from the previous two years, as the small difference in the total FPC value of 0.27 this year compared to 0.26 in last year's survey indicates. This is continued evidence 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 years prior to 2010. FPC values were calculated based on Total filings excluding divisional filings, since this was the population of filings on which the sampling mechanism was based.

Please see the Applicant Panel Survey 2006 report, Annex VI, for a detailed explanation and derivation of the finite population correction applied throughout this report.

The corrected variance estimates are then used to estimate confidence intervals for the predicted number of filings $\widehat{A_r} = A_b * Q_r$, where A_b is the number of base year filings. A 95% confidence interval for $\widehat{A_r}$ is calculated as

$$\widehat{A_r} \pm 2 * \left(\widehat{A_r} * \sqrt{\exp(VAR_{FPC\ corrected})^2 - \exp(VAR_{FPC\ corrected})}\right) .$$

For a detailed explanation of the derivation of confidence intervals for the predicted number of filings please see the Applicant Panel Survey 2003 report, Annex IV.

9.4 Assessment of forecast quality using RMSEF

As was introduced in the 2011 survey report, all forecast approaches with filings forecasts from the Random group are analysed in terms of the root mean squared error of the forecast (RMSEF), defined as

$$RMSEF(\hat{f}) = \sqrt{\left[bias(\hat{f})\right]^2 + Var(\hat{f})} ,$$

where $bias(\hat{f})$ is the difference between the forecast and the actual number of Total filings for year one (2013 in this survey); and $Var(\hat{f})$ is the variance of the forecast that is calculated as the Poisson weighted sum of squared differences from the actual number of Total filings.

9.5 Winsorisation

Some of the forecast approaches in this survey were repeated using a winsorised version of applicant responses.[11] With this method, individual applicant growth indices are adjusted by reigning in 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 growth index at the respective percentile. The adjusted data are then used for carrying out Q-index calculations according to the various breakdown scenarios.

[11] Cf. Applicant Panel Survey 2005 report: Section 7.5.

When using winsorised data, standard errors of Q-index-based growth rate estimates are adjusted to take account of the winsorisation by applying an inflation factor of

$$\frac{(n-1)}{(n-2k-1)},$$

where *n* is the number of sample cases overall, and *k* is the number of sample cases effected by the winsorisation process at each end.[12]

9.6 Amalgamation of joint clusters into mega clusters

At the EPO, operations with respect to patent filings are organised according to 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, the 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 just one of the mega clusters. The assignment is given in **Table 44**.

This ensures that an applicant's growth estimate retains the same overall leverage, regardless of the number of mega clusters the applicant may be active in. Specifically, the total Poisson weight obtained for each respondent is distributed across all active mega clusters based on the proportion of filings per mega cluster as obtained from answers to questions C(f) of this year's survey. Thus, even though a respondent's growth estimates may influence more than one mega cluster, the total weight and thus influence of a respondent is always equal to the original Poisson weight.

When deriving the standard error for mega-cluster-based analyses, a correction is made to avoid distortions caused by multiple mega cluster classifications. For the Random group, this correction takes into account the average multiplicity of mega clusters per responding applicant in this year's survey of 1.58[13], and widens the confidence limits by multiplying standard errors by 1.26 (the square root of 1.58). As previously for the calculation of standard errors, a finite population correction is also applied. This has the compensatory effect of narrowing the confidence limits.

Growth estimates, broken down by mega cluster, are given in **Annex IV**. Additional analyses are also provided using mega cluster breakdowns in **Annex VI** and **Annex VII**.

[12] Tukey and McLaughlin (1963): Less vulnerable confidence and significance procedures based on a single sample: Trimming and winsorisation, Sankhyā: The Indian Journal of Statistics, Series A, vol. 25, no. 3, pp 331-352.

[13] See Section 12.1 for details of this calculation.

Mega Cluster	Joint Cluster
Electricity	Electricity and Semiconductor Technology Electrical and Electronic Technology Applied Physics
ICT	Audio, Video & Media Computers Telecommunications
Inorganic Chemistry	Industrial Chemistry Polymers
Organic Chemistry	Biotechnology Pure & Applied Organic Chemistry
Traditional	Civil Engineering; Thermodynamics Handling & Processing Medical and Consumer Technology Vehicles & General Technology

Table 44: Amalgamation of joint clusters into mega clusters

ANNEXES PART B: FURTHER RESULTS

10 Annex IV: Forecasts broken down by mega clusters

The forecasts for EPO filings were analysed with primary breakdowns by mega cluster (see **Annex III, Section 9.6)**. For the Biggest group sample, the composite indices were calculated, while for the Random group sample, Q-indices were calculated.

10.1 Results broken down by mega cluster only

The forecasts of filings by filing type, filing route and mega cluster for the Biggest group are shown in **Table 45**. The analogous forecasts for the Random group, broken down by mega cluster, are given in **Table 46**.

This analysis is useful for business planning as it provides growth rate estimates for groups of individual EPO examining departments of the various primary combinations of first, subsequent, Euro-direct, and PCT-IP filings.

The comparison in **Table 46** suggests high growth for Electricity and Traditional, except for subsequent PCT-IP. This is similar to last year. Additionally, subsequent filings for Organic Chemistry will be quite strong. This situation seems to be roughly the same in the Biggest group (in **Table 45**).

Biggest group (including critical codes)
Breakdown by EPO mega cluster
Composite indices

			Year					
			2013		2014		2015	
Filing type	**Filing route**	**Cluster**	Cases 13	Index 13	Cases 14	Index 14	Cases 15	Index 15
First	Euro-direct	Electricity	33	1.0855	28	1.2482	26	1.3398
		Organic Chemistry	20	1.1241	16	1.2793	16	1.3449
		Inorganic Chemistry	14	0.9757	11	1.0066	11	1.0479
		ICT	24	1.2946	21	1.4724	20	1.5157
		Traditional	37	1.0982	33	1.2484	33	1.2971
First	PCT-IP	Electricity	25	1.1446	23	1.1070	22	1.0723
		Organic Chemistry	17	1.1168	13	1.1550	13	1.2151
		Inorganic Chemistry	12	1.2322	11	1.2004	10	1.2364
		ICT	21	1.1604	17	1.1035	17	1.0524
		Traditional	29	1.0153	28	1.0447	27	1.0912
Subsequent	Euro-direct	Electricity	44	1.0173	37	1.0702	34	1.1352
		Organic Chemistry	14	1.0489	13	1.0632	12	1.0951
		Inorganic Chemistry	18	0.9872	16	0.9784	14	1.0009
		ICT	26	1.0348	22	1.0762	21	1.1303
		Traditional	48	1.0486	41	1.0647	40	1.1022
Subsequent	PCT-IP	Electricity	53	0.9768	48	0.9975	44	1.0130
		Organic Chemistry	31	0.9542	26	1.0015	24	1.0302
		Inorganic Chemistry	34	1.0051	30	1.0311	27	1.0371
		ICT	27	0.9782	25	0.9876	23	0.9891
		Traditional	65	0.9778	58	0.9983	56	1.0145

Table 45: Forecasts for EPO filings at the EPO – Biggest group, broken down by mega cluster

Random group (including critical codes)
Breakdown by EPO mega cluster
Q-indices

S.E. indicates standard error of logarithm

			Year								
			2013			2014			2015		
Filing type	**Filing route**	**Cluster**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
First	Euro-direct	Electricity	70	1.3579	0.1815	62	1.4870	0.2273	56	1.6418	0.2519
		Organic Chemistry	53	1.0088	0.1129	44	1.0843	0.1485	44	1.0987	0.1485
		Inorganic Chemistry	47	0.9911	0.0741	37	1.0806	0.0753	34	1.1697	0.1104
		ICT	45	1.2841	0.1456	38	1.3064	0.1808	35	1.3500	0.1932
		Traditional	111	1.1042	0.0729	98	1.2301	0.1071	94	1.2706	0.1064
First	PCT-IP	Electricity	45	1.0821	0.1337	40	1.1718	0.0841	36	1.3086	0.0944
		Organic Chemistry	34	1.1476	0.0995	32	1.2061	0.0686	31	1.2954	0.0821
		Inorganic Chemistry	34	0.9953	0.1321	28	1.0525	0.1326	25	1.1455	0.1526
		ICT	32	1.0619	0.0654	25	1.0685	0.0596	26	1.0934	0.0792
		Traditional	69	1.0812	0.0729	62	1.1086	0.0808	61	1.1864	0.0962
Subsequent	Euro-direct	Electricity	94	1.0392	0.0398	79	1.1001	0.0397	74	1.2014	0.0653
		Organic Chemistry	37	1.0903	0.0956	33	1.1438	0.1007	33	1.1579	0.0919
		Inorganic Chemistry	52	1.0391	0.1148	41	1.1216	0.1091	37	1.0387	0.0604
		ICT	48	0.9946	0.0365	39	1.0130	0.0479	36	1.0187	0.0504
		Traditional	142	1.0103	0.0323	121	1.0458	0.0429	124	1.0975	0.0480
Subsequent	PCT-IP	Electricity	109	0.9466	0.0400	97	0.9903	0.0347	90	1.0339	0.0283
		Organic Chemistry	85	1.0065	0.0965	75	1.1732	0.0568	69	1.2201	0.0540
		Inorganic Chemistry	79	1.0097	0.0387	61	1.0695	0.0449	57	1.0911	0.0450
		ICT	55	0.9631	0.0275	46	1.0105	0.0212	42	1.0184	0.0206
		Traditional	179	0.9817	0.0332	150	1.0079	0.0390	147	1.0095	0.0360

Table 46: Forecasts for EPO filings at the EPO – Random group, broken down by mega cluster

10.2 Results broken down by both mega cluster and residence bloc

The data of the Random group were also analysed with a simultaneous breakdown by mega cluster and residence bloc. The results are shown in **Table 47**.

Random group (including critical codes)
Breakdown by mega cluster and residence bloc ("Other" incorporated into EP)
Q-indices
First, Subsequent, Euro-direct and PCT-IP filings combined

				Year								
				2013			2014			2015		
Filing type	**Filing route**	**mega cluster**	**Res. bloc**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
First+Subsequent	Euro-direct+PCT-IP	Electricity	EP/OT	102	1.0047	0.0548	93	1.0827	0.0588	82	1.1382	0.0588
			JP	32	0.9790	0.0402	27	0.9939	0.0582	27	1.0082	0.0709
			US	10	0.9021	0.0565	6	0.9588	0.0547	5	1.0014	0.0516
First+Subsequent	Euro-direct+PCT-IP	Organic Chemistry	EP/OT	61	0.9945	0.1067	56	1.1673	0.0580	51	1.2322	0.0587
			JP	26	1.0524	0.0240	22	1.0656	0.0272	22	1.0760	0.0303
			US	14	0.8064	0.1278	12	0.7425	0.3553	12	0.7484	0.3693
First+Subsequent	Euro-direct+PCT-IP	Inorganic Chemistry	EP/OT	59	1.0039	0.0634	50	1.0700	0.0585	44	1.1256	0.0620
			JP	23	1.0490	0.0320	21	1.0806	0.0345	21	1.0821	0.0346
			US	9	0.9179	0.0761	8	1.0005	0.1132	8	1.0322	0.1052
First+Subsequent	Euro-direct+PCT-IP	ICT	EP/OT	48	1.0065	0.0361	38	1.0482	0.0450	36	1.0570	0.0487
			JP	18	1.0254	0.0213	17	1.0376	0.0284	17	1.0479	0.0361
			US	5	0.9688	0.0754	3	1.2119	0.1255	2	1.5116	0.0703
First+Subsequent	Euro-direct+PCT-IP	Traditional	EP/OT	165	0.9865	0.0300	145	1.0537	0.0386	142	1.0738	0.0367
			JP	61	1.0060	0.0255	51	0.9780	0.0361	51	0.9926	0.0395
			US	15	0.7796	0.1895	10	1.3044	0.1984	10	1.2531	0.1299

Table 47: Forecasts for EPO filings at the EPO – Random group, broken down by residence bloc and mega cluster

It seems that ICT may be very strong in the US, although the result for 2015 is based on only two respondents.

10.3 Forecasts for Euro-PCT-RP applications broken down by mega cluster

Growth rate estimates for Euro-PCT-RP applications were also estimated, after breaking down by mega cluster, but combining filing types and first filings with subsequent filings. The results of this analysis are shown in **Table 48**.

Random group (including critical codes)
Breakdown by EPO mega cluster
Q-indices

S.E. indicates standard error of logarithm

			Year								
			2013			2014			2015		
Patent office	**Filing route**	**Cluster**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
EPO	Euro-PCT-RP	Electricity	116	1.0612	0.0379	103	1.1454	0.0401	94	1.2506	0.0654
		Organic Chemistry	101	0.8637	0.0611	93	0.9386	0.0506	86	0.9889	0.0811
		Inorganic Chemistry	93	0.9247	0.0588	80	1.0094	0.0495	73	1.0096	0.0579
		ICT	64	1.0051	0.0267	56	1.0781	0.0342	50	1.1190	0.0473
		Traditional	210	1.0146	0.0290	179	1.1265	0.0415	174	1.1870	0.0698

Table 48: Forecasts for Euro-PCT-RP applications - Random group (broken down by mega cluster)

For all time frames under review, growth in the Electricity cluster is anticipated to be the strongest, with the Organic Chemistry cluster being the weakest.

11 Annex V: Forecasts for applications at other patent offices

11.1 Worldwide first filings

Intentions regarding worldwide future patent filings were obtained from question *(j)* in **Part B** of the questionnaire (**Annex I**). As was attempted for the first time two years ago, an estimate of total worldwide first filings is again made in this report, based on the worldwide first filings growth rate estimates obtained from the respondents. The sample that was employed in this survey, while representative of EPO applicants, does not match all the applicants that apply at the various other national and regional offices, because they include some entities that do not apply to EPO. Care should thus be taken when interpreting these numbers. What is shown here is essentially the attitude of EPO applicants towards their worldwide first filings expectations.

"2012 Actual filings" that are used as base year data for the projections are based on information from WIPO that appeared in December 2013.[14] The definition that was chosen for first patent filings is a proxy equivalent to the one that is used in the IP5 Statistics Report[15]. An assumption is made that the domestic national filings reported from each patent office are equivalent to first filings. In order to estimate numbers of first filings from EPC states, domestic national filings from the national offices of the 38 EPC contracting states are summed and added to the numbers of Euro-direct first filings at EPO coming from residents. Some simplifying assumptions were applied to calculate the 2012 base year counts from this source, so that numbers that will appear in the next published version of the IP5 Statistics Report may vary slightly from these numbers.

Table 49 shows the results without further breakdown, whereas **Table 50** shows the results broken down by residence bloc. Filings growth from 2012 to 2013 cannot be checked because collected returns from all the patent offices have not yet been published by the WIPO. The growth rate estimates are also subject to statistical error (95% confidence limits for growth 2012 to 2013 are between -1.8% and +7.6%, see Table 49).

As was the case last year, estimates based on a residence bloc breakdown are more optimistic than estimates without breakdown. Based on the residence bloc breakdown estimate, worldwide filings are expected to grow at +2.9% in 2013, +9.3% in 2014, and +13.4% in 2015, each time vs. 2012. Differences in growth expectations can be observed between residence blocs, with the US and Others (including China and Korea) residence blocs again growing most dynamically. Last year, the survey predicted for the Others bloc a small decrease from 2011 to 2012.

[14] See http://www.wipo.int/ipstats/en/wipi/. The data are extracted from “Table P1: Patent applications by patent office and origin, 2012”. Residence bloc breakdowns are augmented by exchanges between patent offices.

[15] See Fig. 3.4 in the IP5 Statistics Report 2012 edition, at www.fiveipoffices.org/stats.html

The biggest source of worldwide first filings growth is China (**533 421** in 2012, +29% vs. **413 450** in 2011). This cannot be expected to capture everything that will happen in the Others bloc, because many applicants from China do not file at EPO and there are relatively few survey responses from China.

Random group (including critical codes)
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												
		2012	2013				2014				2015			
Filing type	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
Worldwide Total First Filings	**Total**	**1 421 044**	498	0.9733	0.0153	**1 383 088**	430	1.0397	0.0151	**1 477 470**	399	1.0757	0.0163	**1 528 575**
	LCL					1 341 472				1 433 666				1 479 610
	UCL					1 424 704				1 521 273				1 577 541
Growth from 2012						**-2.7%**				**4.0%**				**7.6%**

Table 49: Forecast for worldwide first filings, no breakdown – Random group

Random group (including critical codes)
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												
		2012	2013				2014				2015			
Filing type	**Res. bloc**	Actual filings	Cases 13	Q-index 13	S.E. 13	Predicted filings	Cases 14	Q-index 14	S.E. 14	Predicted filings	Cases 15	Q-index 15	S.E. 15	Predicted filings
Worldwide Total First Filings	EP	126 325	340	0.9505	0.0203	120 078	303	1.0282	0.0199	129 885	277	1.0684	0.0210	134 966
	JP	285 647	89	1.0126	0.0150	289 232	72	1.0390	0.0167	296 783	72	1.0512	0.0219	300 278
	OT	751 062	20	1.0626	0.0424	798 115	19	1.1408	0.0601	856 807	17	1.1898	0.0884	893 595
	US	258 010	49	1.0066	0.0439	259 706	36	1.0709	0.0424	276 313	33	1.1218	0.0473	289 426
	Total	**1 421 044**	**498**			**1 467 131**	**430**			**1 559 788**	**399**			**1 618 264**
	LCL					1 396 356				1 455 426				1 459 525
	UCL					1 537 906				1 664 149				1 777 004
Growth from 2012						**3.2%**				**9.8%**				**13.9%**

Table 50: Forecast for worldwide first filings, broken down by residence bloc – Random group

Figure 9 shows estimated one-year worldwide first filings growth, along with 95% confidence intervals based on the surveys, in comparison to actually observed growth. Historically, despite not being the primary aim of this survey, the forecasts of total worldwide first filings growth have performed quite well when measured against observed growth. However, the zero growth in worldwide filings predicted by this survey last year has apparently been contradicted by strong observed growth of 13.6% in 2012.[16]

[16] Further investigations about estimating worldwide first filings using the EPO patent filings survey data can be found in Dannegger, F. and Hingley, P., "Predictive accuracy of survey-based forecasts for numbers of filings at the European Patent Office", World Patent Information (2013), 35:187-200.

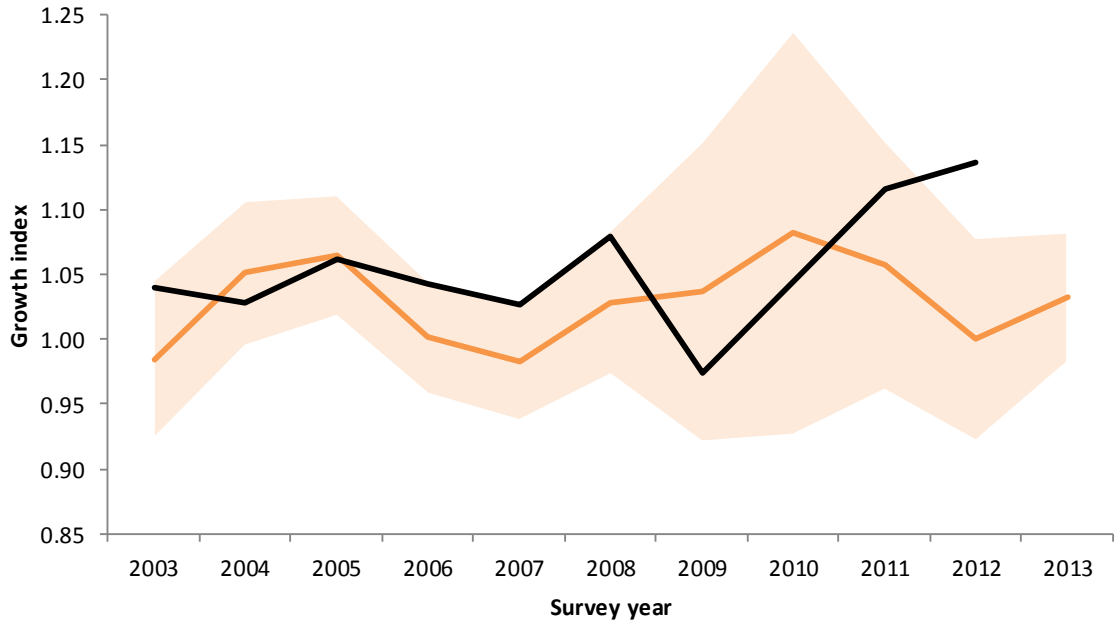


Figure 9: Comparison of forecasts for one-year worldwide first filings growth since 2003. Orange line indicates forecast, orange bands the corresponding confidence intervals. Black line indicates observed true growth.

11.2 Patent filings at specific national offices

Intentions regarding future patent filings at specific national offices were obtained from questions *(c)* to *(h)* and *(k)* to *(o)* in **Part B** of the questionnaire (**Annex I**).

Estimated growth rates for national applications by country, based on the Random group, are presented in **Table 51** and **Table 52**. The tables are limited to calculated growth rates with standard errors.

The filing intentions at national offices of the companies that applied at the EPO in 2012 vary considerably from country to country. But in many cases, the 95% confidence limits for the growth indices (obtained via a normal approximation as the point estimate of growth +/- 1.96 x standard error) for 2012 are not significantly different from 1 (no change). China was expected to have the highest significant national first filings growth in 2012, but Germany shows a significant decrease. Over the three-year horizon of this survey, China is anticipated to experience 44% first filings growth. **Table 52** suggests a strong contribution to first filings growth in China from US-based applicants. In terms of subsequent national filings, the expected growth rates are strongest for Other countries.

Data for the United Kingdom allow an assessment of the possibility that the "Patent Box" tax stimulation policy there (since 1st April, 2013[17]) will have an effect on patent filings.

[17] See http://en.wikipedia.org/wiki/Patent_Box

Growth is indeed estimated to be positive for both first and subsequent filings in the two and three-year horizons, but this is only significantly different from 1 for subsequent filings due to a high standard error for first filings growth. **Table 52** shows that the subsequent filings growth in the UK may be strongest from EPC-based applicants.

Random group (including critical codes)
No breakdown
Q Indices

				Year								
				2013			2014			2015		
Filings type	**Filing route**	**Nation**	**Res. bloc**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
First	National	Germany (c)	Total	123	0.8625	0.0651	103	0.9905	0.0430	99	1.0130	0.0412
		United Kingdom (d)	Total	37	1.1097	0.1945	28	1.3002	0.2334	28	1.3085	0.2344
		Japan (e)	Total	101	0.7529	0.1991	80	0.9815	0.0321	80	1.0183	0.0422
		United States (f)	Total	165	0.9647	0.0392	134	1.0180	0.0481	127	1.0641	0.0497
		Republic of Korea (g)	Total	16	1.0475	0.0502	14	0.9803	0.0933	13	1.0740	0.0726
		China (h)	Total	48	1.2225	0.0789	42	1.3171	0.1020	41	1.4445	0.1554
		Other Countries (i)	Total	130	0.9358	0.0612	108	1.0240	0.0738	101	1.0267	0.0681
Subsequent	National	Germany (c)	Total	498	0.9733	0.0180	430	1.0397	0.0177	399	1.0757	0.0191
		United Kingdom (d)	Total	71	0.8265	0.1762	58	1.1331	0.0516	58	1.2074	0.0897
		Japan (e)	Total	37	1.1019	0.0760	29	1.1421	0.0638	29	1.2041	0.0922
		United States (f)	Total	141	0.9242	0.0666	126	1.0457	0.0322	122	1.0752	0.0335
		Republic of Korea (g)	Total	231	0.9944	0.0445	204	1.0777	0.0387	195	1.1268	0.0393
		China (h)	Total	95	1.0867	0.0918	81	1.1659	0.0616	79	1.1927	0.0675
		Other Countries (i)	Total	174	1.1321	0.0504	148	1.2166	0.0492	146	1.2651	0.0511

Table 51: Detailed forecasting results for national applications (excluding PCT), no breakdown – Random group

Random group (including critical codes)
Q Indices, Breakdown by residence bloc

				Year								
				2013			2014			2015		
Filings type	**Filing route**	**Nation**	**Res. bloc**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
First	National	Germany (c)	EP	113	0.8403	0.0711	96	0.9886	0.0508	92	1.0155	0.0497
			JP	2	0.8625 *	0.0651 *	2	0.9905 *	0.0430 *	2	1.0130 *	0.0412 *
			OT	1	0.8625 *	0.0651 *	1	0.9905 *	0.0430 *	1	1.0130 *	0.0412 *
			US	7	1.0540	0.0445	4	0.9905 *	0.0430 *	4	1.0130 *	0.0412 *
		United Kingdom (d)	EP	25	1.2588	0.3947	19	1.6302	0.4657	19	1.6504	0.4690
			JP	4	1.1097 *	0.1945 *	3	1.3002 *	0.2334 *	3	1.3085 *	0.2344 *
			OT	n/a	1.1097 *	0.1945 *	n/a	1.3002 *	0.2334 *	n/a	1.3085 *	0.2344 *
			US	8	1.0304	0.0283	6	1.0467	0.0459	6	1.0467	0.0459
		Japan (e)	EP	10	0.4193	0.4938	7	0.8583	0.0635	7	0.8767	0.0773
			JP	85	0.9920	0.0181	68	1.0209	0.0188	68	1.0288	0.0257
			OT	n/a	0.7529 *	0.1991 *	n/a	0.9815 *	0.0321 *	n/a	1.0183 *	0.0422 *
			US	6	0.7697	0.1933	5	0.9815 *	0.0321 *	5	1.0183 *	0.0422 *
		United States (f)	EP	85	0.8803	0.0484	71	0.9436	0.0664	66	0.9887	0.0666
			JP	28	1.2229	0.0847	23	1.1578	0.0780	23	1.1777	0.0821
			OT	12	1.0781	0.0796	9	1.3430	0.0662	8	1.5199	0.0854
			US	40	1.0137	0.0501	31	1.0608	0.0496	30	1.0974	0.0523
		Republic of Korea (g)	EP	7	1.0390	0.0403	7	0.9539	0.1171	6	1.0683	0.0696
			JP	4	1.0475 *	0.0502 *	3	0.9803 *	0.0933 *	3	1.0740 *	0.0726 *
			OT	2	1.0475 *	0.0502 *	1	0.9803 *	0.0933 *	1	1.0740 *	0.0726 *
			US	3	1.0475 *	0.0502 *	3	0.9803 *	0.0933 *	3	1.0740 *	0.0726 *
		China (h)	EP	25	1.1685	0.0847	22	1.2986	0.1179	21	1.3303	0.1230
			JP	11	1.4522	0.2590	10	1.1568	0.1046	10	1.1892	0.1200
			OT	3	1.2225 *	0.0789 *	3	1.3171 *	0.1020 *	3	1.4445 *	0.1554 *
			US	9	1.2495	0.1273	7	1.8076	0.2289	7	2.7808	0.4070
		Other Countries (i)	EP	102	0.9080	0.0731	81	0.9917	0.0969	77	0.9865	0.0881
			JP	11	1.0944	0.0598	11	1.1209	0.0693	11	1.1422	0.0812
			OT	5	0.9358 *	0.0612 *	5	1.0240 *	0.0738 *	4	1.0267 *	0.0681 *
			US	12	0.8087	0.2112	11	0.9752	0.1820	9	0.9997	0.2179
Subsequent	National	Germany (c)	EP	42	0.9505	0.0244	303	1.0282	0.0239	277	1.0684	0.0252
			JP	19	1.0126	0.0180	72	1.0390	0.0200	72	1.0512	0.0263
			OT	2	0.9733 *	0.0180 *	19	1.1408	0.0721	17	1.1898	0.1060
			US	8	1.0066	0.0526	36	1.0709	0.0508	33	1.1218	0.0567
		United Kingdom (d)	EP	20	0.7048	0.2632	35	1.2010	0.0709	35	1.3363	0.1264
			JP	7	1.1315	0.0769	17	1.0830	0.0606	17	1.0957	0.0662
			OT	1	0.8265 *	0.1762 *	1	1.1331 *	0.0516 *	2	1.2074 *	0.0897 *
			US	9	0.8017	0.1159	5	1.1331 *	0.0516 *	4	1.2074 *	0.0897 *
		Japan (e)	EP	74	1.0502	0.1082	17	1.1122	0.0847	17	1.1122	0.0847
			JP	47	1.2892	0.1595	6	1.1846	0.1559	6	1.1846	0.1559
			OT	6	1.0000	n/a	n/a	1.1421 *	0.0638 *	1	1.2041 *	0.0922 *
			US	14	1.0793	0.0374	6	1.1997	0.0457	5	1.2041 *	0.0922 *
		United States (f)	EP	134	0.8700	0.1050	68	1.0088	0.0417	66	1.0371	0.0435
			JP	52	1.0756	0.0421	42	1.1206	0.0510	41	1.1595	0.0590
			OT	13	0.9080	0.0954	7	0.9612	0.0837	7	0.9993	0.1147
			US	32	0.9073	0.1158	9	1.2873	0.2472	8	1.2388	0.2301
		Republic of Korea (g)	EP	47	0.9853	0.0664	124	1.0673	0.0546	116	1.1227	0.0534
			JP	35	1.0596	0.0439	43	1.0976	0.0548	43	1.1101	0.0576
			OT	4	0.9944 *	0.0445 *	12	1.3181	0.0724	12	1.5495	0.0848
			US	9	0.7836	0.0775	25	0.9275	0.0525	24	0.9210	0.0649
		China (h)	EP	99	1.0857	0.1534	42	1.1906	0.0937	42	1.2175	0.1015
			JP	51	1.1735	0.0610	30	1.1970	0.0755	30	1.2235	0.0820
			OT	8	0.9978	0.1012	4	1.1659 *	0.0616 *	3	1.1927 *	0.0675 *
			US	16	0.7444	0.1374	5	1.1659 *	0.0616 *	4	1.1927 *	0.0675 *
		Other Countries (i)	EP	96	1.1614	0.0789	88	1.2515	0.0715	87	1.3109	0.0731
			JP	43	1.1382	0.0482	44	1.1711	0.0597	44	1.2232	0.0715
			OT	8	1.1362	0.0917	7	1.2727	0.0765	7	1.2313	0.0888
			US	21	0.7978	0.1349	9	0.9315	0.2095	8	0.9343	0.2440

Table 52: Detailed forecasting results for national applications (excluding PCT), broken down by residence bloc – Random group

Forecasts based on the Random group for PCT-NP applications at DPMA (German Patent Office), JPO, KIPO SIPO, and USPTO are displayed without further breakdown in **Table 53**, and with a residence bloc breakdown in **Table 54.** The tables are also limited to calculating growth indices in these cases.[18]

[18] Counts for base year 2012 are also provided in some cases by WIPO as of December 2013 (similarly to worldwide first filings in Section 11.1 above). Forecasts in terms of absolute future levels of such filings are not given due to the possible lack of representativeness of the sample.

Growth to 2015 is forecast to be most dynamic at DPMA (German Office), followed by KIPO, USPTO, and SIPO. **Table 54** suggests that the high growth at DPMA to 2015 will mostly be from EP-based applicants. This is a higher apparent growth rate than for Euro-PCT-RP applications at EPO up to 2015 as was shown in **Table 23**. Again it should be noted that these growth rate estimates apply only to the population from which the sample was selected, namely applicants to EPO for Euro-direct and Euro-PCT-RP filings in 2012.

Random group (including critical codes)
No subsidiary breakdown
Q-indices

		Year								
		2013			2014			2015		
Patent Office	**Filing route**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
DPMA	PCT-NP	83	1.0243	0.1620	75	1.2409	0.1338	72	1.2845	0.1348
JPO	PCT-NP	261	0.9771	0.0304	229	1.0703	0.0333	212	1.1032	0.0384
KIPO	PCT-NP	207	1.0405	0.0342	178	1.1256	0.0335	170	1.1612	0.0381
SIPO	PCT-NP	295	1.0058	0.0276	258	1.0840	0.0309	240	1.1486	0.0282
USPTO	PCT-NP	331	0.9889	0.0422	291	1.0942	0.0341	268	1.1551	0.0332

Table 53: Detailed forecasting results for PCT applications entering the national phase, without further breakdown – Random group

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

			Year								
			2013			2014			2015		
Patent Office	**Filing route**	**Res. bloc**	Cases 13	Q-index 13	S.E. 13	Cases 14	Q-index 14	S.E. 14	Cases 15	Q-index 15	S.E. 15
DPMA	PCT-NP	EP	45	1.0946	0.2317	40	1.4041	0.1731	37	1.4510	0.1773
		JP	26	0.9103	0.1559	23	1.0549	0.1248	23	1.0897	0.1317
		OT	2	1.2378	0.1648	3	1.0032	0.3052	3	1.9971	0.3138
		US	10	0.8257	0.1098	9	0.8118	0.1176	9	0.8118	0.1176
JPO	PCT-NP	EP	140	0.9413	0.0428	120	1.0617	0.0506	108	1.1185	0.0586
		JP	74	1.0980	0.0446	64	1.1411	0.0524	64	1.1497	0.0578
		OT	14	0.9876	0.0666	16	0.9740	0.0739	14	1.0461	0.0799
		US	33	0.8702	0.0745	29	0.9539	0.0715	26	0.8702	0.0844
KIPO	PCT-NP	EP	107	1.0030	0.0441	90	1.1088	0.0387	82	1.1625	0.0476
		JP	68	1.0736	0.0511	58	1.1033	0.0545	58	1.1214	0.0571
		OT	9	1.0122	0.0635	8	1.0911	0.0681	9	1.1611	0.1151
		US	23	1.2683	0.1864	22	1.3747	0.2068	21	1.3221	0.2226
SIPO	PCT-NP	EP	168	0.9885	0.0381	148	1.0505	0.0483	135	1.1520	0.0415
		JP	79	1.0356	0.0427	68	1.1469	0.0375	67	1.1655	0.0431
		OT	17	1.0840	0.1185	15	1.0714	0.1146	14	1.1450	0.0863
		US	31	1.0044	0.0726	27	1.1441	0.0761	24	1.0607	0.0795
USPTO	PCT-NP	EP	198	0.9638	0.0618	175	1.0538	0.0490	157	1.1239	0.0436
		JP	83	1.0564	0.0471	69	1.1562	0.0585	68	1.1711	0.0633
		OT	19	1.0654	0.0881	20	1.2521	0.1048	19	1.3949	0.1202
		US	31	0.9319	0.0817	27	1.1133	0.0795	24	1.1884	0.0715

Table 54: Detailed forecasting results for PCT applications entering the national phase, broken down by residence bloc – Random group

12 Annex VI: Respondents' profiles

In **Section C** of the questionnaire, respondents were asked to indicate the profile of the company, including the number of persons employed, the joint clusters that best describe the applicant's business along with corresponding R&D and patenting activity, the year of onset of patenting activity at the EPO and whether the applicant is one of the small and medium-sized enterprises (SME). The results from these questions are analysed in this Annex.

Section 12.1 provides an overview of the sample composition in terms of EPO joint clusters and mega clusters. In **Sections 12.2 to 12.4**, distributions for the year of onset of patenting activities at EPO and numbers of employees per applicant are shown. Finally, **Section 12.5** provides summary statistics of company size and economic activity in various breakdown scenarios.

12.1 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 d). The following figures provide an overview of the sample composition in terms of joint clusters for the Biggest and Random groups. Also a separate table was provided under the random group to see the spread of the US boost sample over the 14 clusters.

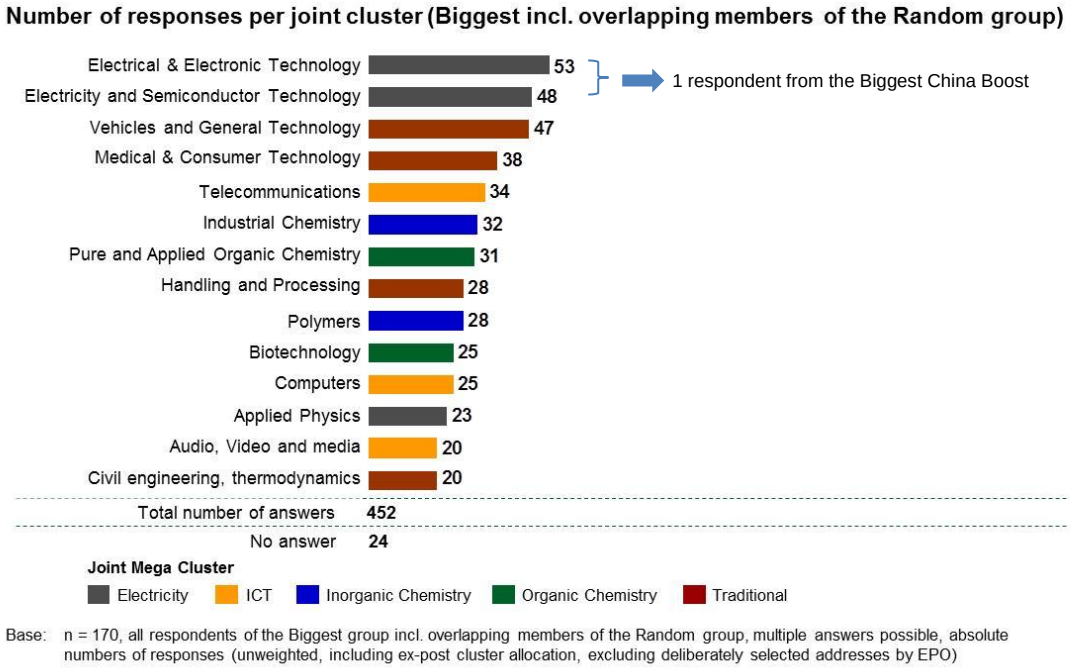
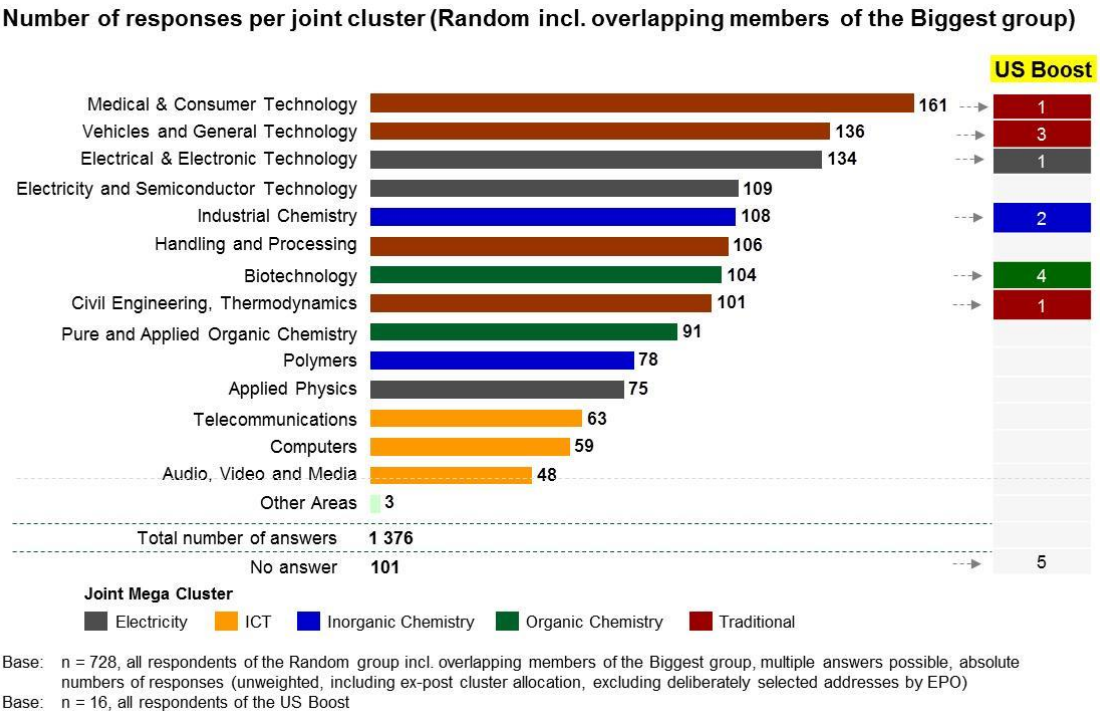


Figure 10: Number of responses per joint cluster (Biggest group including overlapping members of the Random group)



Base: n = 728, all respondents of the Random group incl. overlapping members of the Biggest group, multiple answers possible, absolute numbers of responses (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by EPO)
Base: n = 16, all respondents of the US Boost

Figure 11: Number of responses per joint cluster (Random group including overlapping members of the Biggest group)

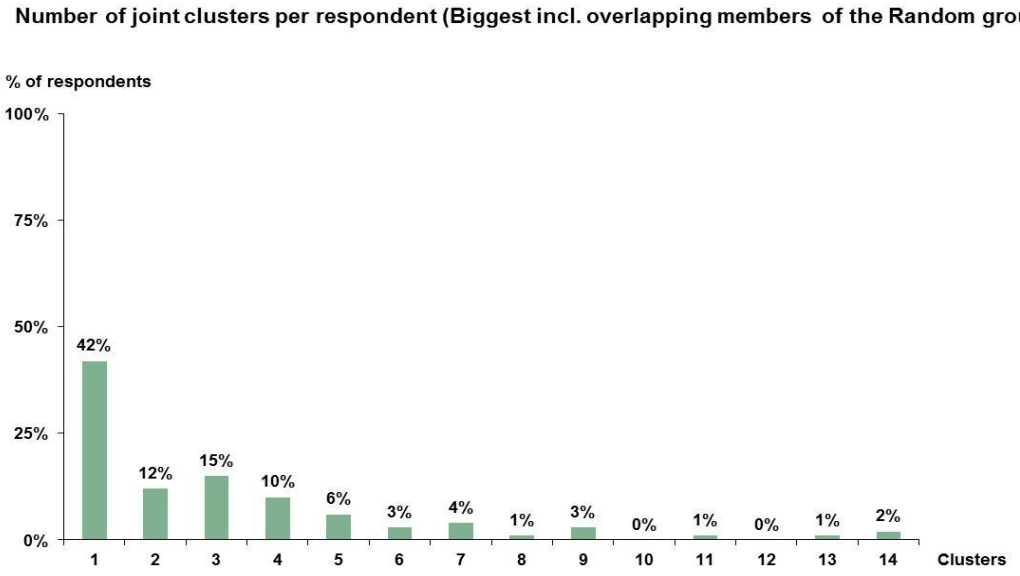
MC*	Joint cluster	Total	Bloc			
			EP	US	JP	OT
Ele	1. Electricity/semiconductor tech	109	66	6	30	7
	2. Electrical & Electronic technology	134	77	11	36	10
	3. Applied physics	75	55	4	12	4
ICT	4. Audio, video and media	48	29	4	12	3
	5. Computers	59	33	8	14	4
	6. Telecommunications	63	33	5	21	4
InoC	7. Industrial chemistry	108	64	10	28	6
	8. Polymers	78	41	10	24	3
OrC	9. Biotechnology	104	61	14	20	9
	10. Pure/applied organic chemistry	91	49	8	24	10
Trad	11. Civil engineering, thermodynamics	101	78	9	10	4
	12. Handling and processing	106	62	6	32	6
	13. Medical & Consumer technology	161	97	16	39	9
	14. Vehicles and general technology	136	79	10	40	7
	Other areas	3	2	0	0	1
	No answer	101	68	14	11	8

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

Base: n = 728/480/72/134/42, corresponding to total/EP/US/JP/OT, all respondents of the Random group, including overlapping members of the Biggest group, absolute numbers of respondents (unweighted, including ex-post cluster allocation)

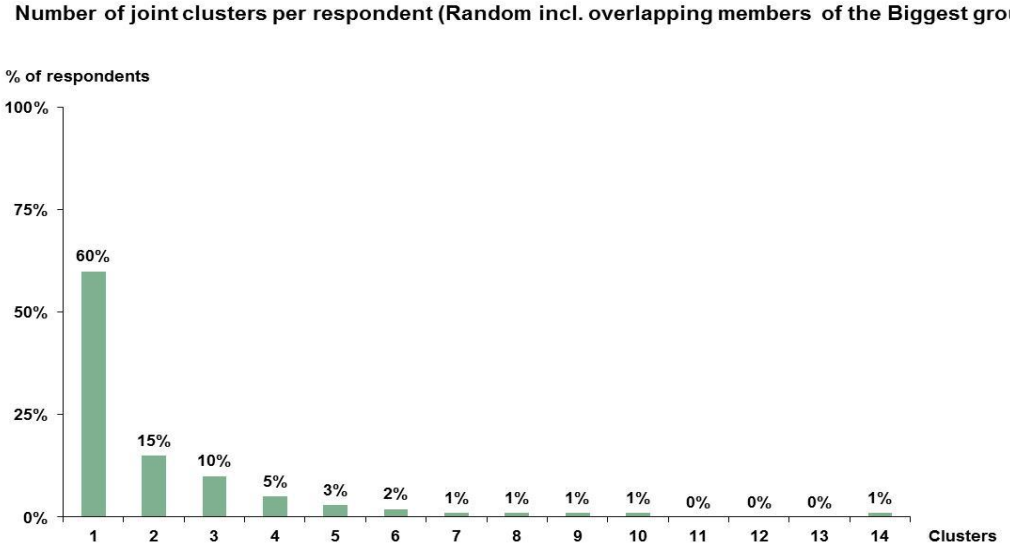
Table 55: Number of responses per joint cluster (Random group including overlapping members of the Biggest group), broken down by bloc

Figure 12 and **Figure 13** show the distribution of responses in the Biggest and Random groups combined with the number of joint clusters chosen. In terms of the five mega clusters (for the amalgamation of joint clusters into joint mega clusters see **Annex III, Section 9.6**), the average number of mega clusters per respondent is 1.95 for the Biggest group respondents (1.84 in 2012), and for Random group respondents remained fairly similar to last year at 1.58 (1.59 in 2012).



Base: n = 146, all respondents of the Biggest group incl. overlapping members of the Random group who provided cluster information, percental numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by EPO)

Figure 12: Number of joint clusters selected per respondent (Biggest group including overlapping members of the Random group)



Base: n = 627, all respondents of the Random group incl. overlapping members of the Biggest group who provided cluster information, percental numbers of respondents (unweighted, including ex-post cluster allocation, excluding deliberately selected addresses by EPO)

Figure 13: Number of joint clusters selected per respondent (Random group including overlapping members of the Biggest group)

Table 56 and **Table 57** below indicate which combinations of joint clusters and mega clusters are cited most frequently. In each case, there is a two-way matrix describing the cluster combinations selected by the interviewees of the Biggest group (**Table 56**), and Random group (**Table 57**). The tables indicate pairwise combinations, but this picture is not absolutely complete, as **Figure 12** and **Figure 13** 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
Ele	1. Electricity/semiconductor tech	48	30	17	14	18	21	11	12	14	11	12	16	23	23
	2. Electrical & Electronic technology	30	53	15	17	19	23	9	9	9	8	11	14	18	20
	3. Applied physics	17	15	23	9	10	13	9	9	9	9	10	12	16	10
ICT	4. Audio, video and media	14	17	9	20	15	18	5	4	6	6	5	6	9	8
	5. Computers	18	19	10	15	25	18	5	6	6	6	5	5	10	10
	6. Telecommunications	21	23	13	18	18	34	7	6	8	7	6	10	11	13
InoC	7. Industrial chemistry	11	9	9	5	5	7	32	17	12	21	8	10	11	9
	8. Polymers	12	9	9	4	6	6	17	28	11	18	8	11	13	9
OrC	9. Biotechnology	14	9	9	6	6	8	12	11	25	16	8	12	14	10
	10. Pure/applied organic chemistry	11	8	9	6	6	7	21	18	16	31	7	10	13	7
Trad	11.Civil engineering, thermodynamics	12	11	10	5	5	6	8	8	8	7	20	10	9	13
	12. Handling and processing	16	14	12	6	5	10	10	11	12	10	10	28	15	15
	13. Medical & Consumer technology	23	18	16	9	10	11	11	13	14	13	9	15	38	12
	14. Vehicles and general technology	23	20	10	8	10	13	9	9	10	7	13	15	12	47

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

Base: n = 146, 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 56: 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	109	61	41	27	33	32	35	30	35	26	27	34	46	38	0
	2. Electrical & Electronic technology	61	134	41	32	37	43	30	25	31	22	31	37	44	42	2
	3. Applied physics	41	41	75	18	23	25	26	21	29	23	26	28	37	27	1
ICT	4. Audio, video and media	27	32	18	48	27	27	18	14	17	17	15	16	22	19	48
	5. Computers	33	37	23	27	59	27	19	15	20	16	16	17	27	21	1
	6. Telecommunications	32	43	25	27	27	63	16	12	16	14	17	21	23	24	1
InoC	7. Industrial chemistry	35	30	26	18	19	16	108	45	32	43	26	24	37	26	1
	8. Polymers	30	25	21	14	15	12	45	78	25	39	17	22	34	23	0
OrC	9. Biotechnology	35	31	29	17	20	16	32	25	104	48	19	27	50	21	1
	10. Pure/applied organic chemistry	26	22	23	17	16	14	43	39	48	91	16	21	44	17	0
Trad	11. Civil engineering, thermodynamics	27	31	26	15	16	17	26	17	19	16	101	24	26	30	1
	12. Handling and processing	34	37	28	16	17	21	24	22	27	21	24	106	36	30	0
	13. Medical & Consumer technology	46	44	37	22	27	23	37	34	50	44	26	36	161	26	2
	14. Vehicles and general technology	38	42	27	19	21	24	26	23	21	17	30	30	26	136	1
	Other areas	0	2	1	0	1	1	1	0	1	0	1	0	2	1	3

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

Base: n = 627, 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 57: Number of responses per joint cluster combination (two-way matrix, Random group including overlapping members of the Biggest group)

12.2 Respondents from the Biggest group

Statistics derived from the various responses reported by the Biggest group are given in **Table 62** further below. **Figure 14** shows that 48% of the responding applicants were active at the EPO from the onset (before 1980, the proportion was 50% in the 2012 survey). Only 9% of the Biggest group began patenting activities at the EPO after 2000.[19]

Also, 66% of Biggest group companies have more than 10 000 employees and 95% are private enterprises.

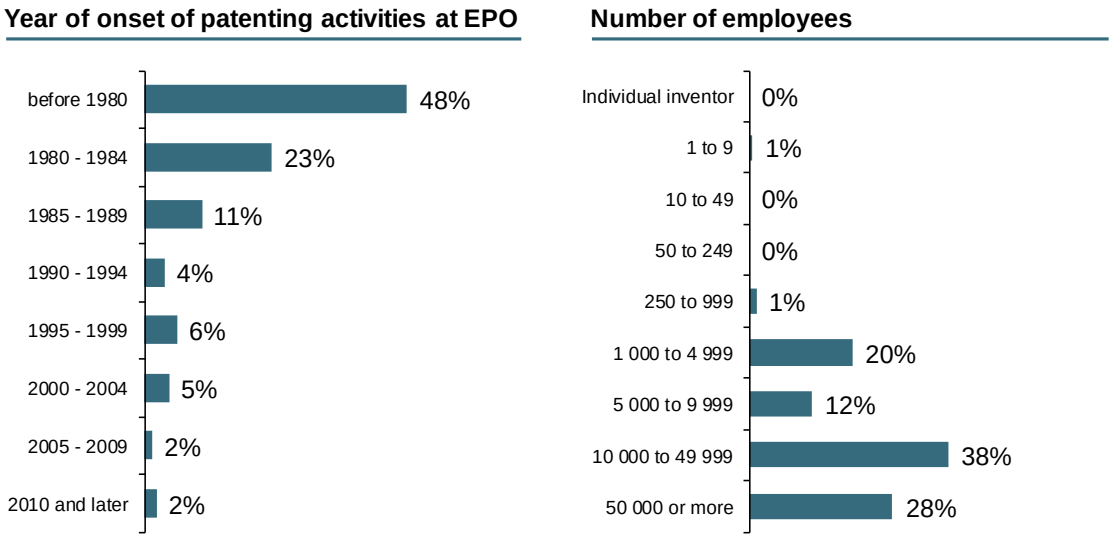


Figure 14: Biggest group by year of onset of patenting activities at the EPO and by number of employees

Broken down by residence bloc, distributions for number of employees are shown in the following **Table 58**.

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%**	**1%**	**0%**	**0%**	**1%**	**20%**	**12%**	**38%**	**28%**	**100%**	**141**
EP	0%	1%	0%	0%	0%	13%	10%	42%	34%	100%	71
JP	0%	0%	0%	0%	2%	29%	14%	38%	17%	100%	58
OT	0%	0%	0%	0%	0%	33%	33%	0%	33%	100%	3
US	0%	0%	0%	0%	11%	11%	11%	22%	44%	100%	9

Table 58: Biggest group by number of employees and residence bloc

[19] 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.

12.3 Respondents from the Random group

Statistics derived from the various responses reported by the Random group are given in **Table 61** to **Table 65** further below. **Figure 15** shows that only 18% of applicants were active at the EPO from the onset (before 1980), while 37% initiated activities at the EPO only from 2000 onwards. 30% of Random group applicants have a maximum of 249 employees and 91% are private enterprises.[20]

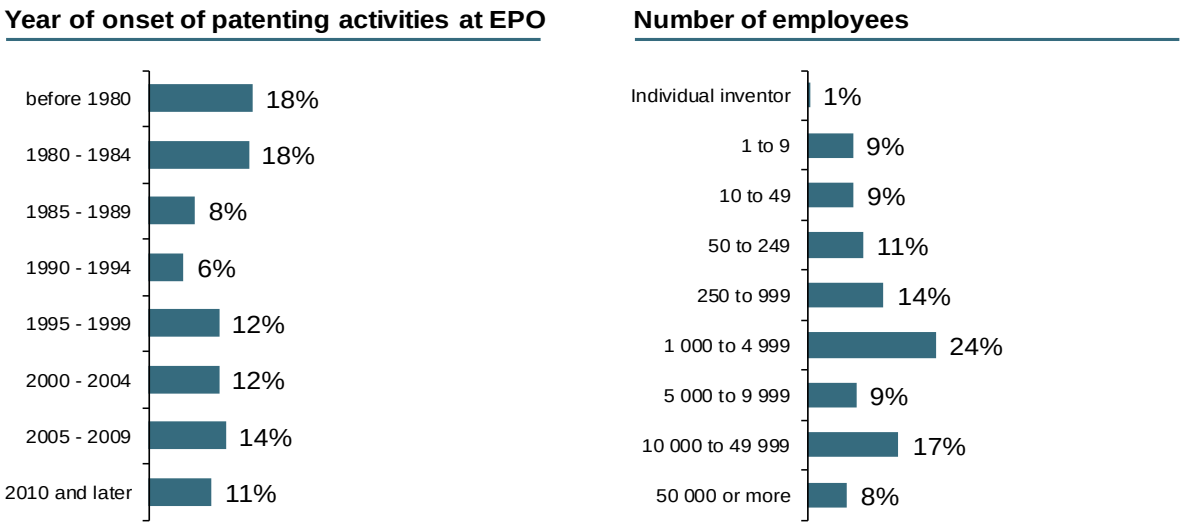


Figure 15: Random group by year of onset of patenting activities at the EPO and by number of employees

[20] Considering sampling errors of surveys, the summary percentages from the unweighted random group for activity before 1980 and for a maximum of 249 employees are the same as were reported for the previous survey. This almost continues to hold for the weighted data in the following Section 12.4, where activity before 1980 is 5% (same as in previous survey), and the maximum of 249 employees is 61% (64% in previous survey). However, we would expect activity before 1980 to have declined slightly in the current survey that was done one year further away from that point in time.

Broken down by residence bloc, distributions of number of employees are shown in the following table:

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	**1%**	**9%**	**9%**	**11%**	**14%**	**24%**	**9%**	**17%**	**8%**	**100%**	**599**
EP	1%	11%	10%	13%	16%	21%	8%	13%	7%	100%	395
JP	0%	2%	1%	1%	10%	39%	13%	29%	7%	100%	126
OT	0%	10%	21%	17%	10%	21%	10%	3%	7%	100%	29
US	0%	2%	14%	14%	10%	14%	8%	24%	12%	100%	49

Table 59: Random group, broken down by persons employed and residence bloc

12.4 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 make inferences about the properties and composition of the population of EPO applicants, if a proper weighting scheme is used.

The weighting to estimate applicant population characteristics uses the extended structural weight approach described in the *Future Filings Survey 2010 report*[21]. 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. The adjustment is achieved by using the sample response rate by size class per bloc of residence (SRSS).

Table 60 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"). This year, as in the previous four years, bloc-specific SRSS values were used since there are pronounced differences in sample response rates between blocs.

class	lb	ub	EP	JP	OT	US	TOTAL
1	1	1	0.29	0.22	0.13	0.04	0.18
2	2	2	0.34	0.31	0.11	0.06	0.22
3	3	3	0.27	0.44	0.13	0.02	0.18
4	4	5	0.39	0.30	0.08	0.07	0.23
5	6	9	0.45	0.46	0.17	0.07	0.29
6	10	19	0.49	0.61	0.24	0.14	0.37
7	20	39	0.34	0.57	0.13	0.14	0.30
8	40	9999999	0.47	0.68	0.24	0.16	0.43
Total			0.37	0.53	0.15	0.08	0.26

Table 60: Bloc-wise SRSS values of the Random sample by filing count class

[21] Cf. Future Filings Survey 2010 report: Section 11.4, p. 77.

The results in **Table 60** are consistent with **Table 38**, 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. Some statistics resulting from answers of the respondents are given in **Table 62**, **Table 64,** and **Table 66** further below. Regarding year of onset of patenting activities at the EPO and number of employees, the weighted estimated distributions in the population are now shown as histograms.

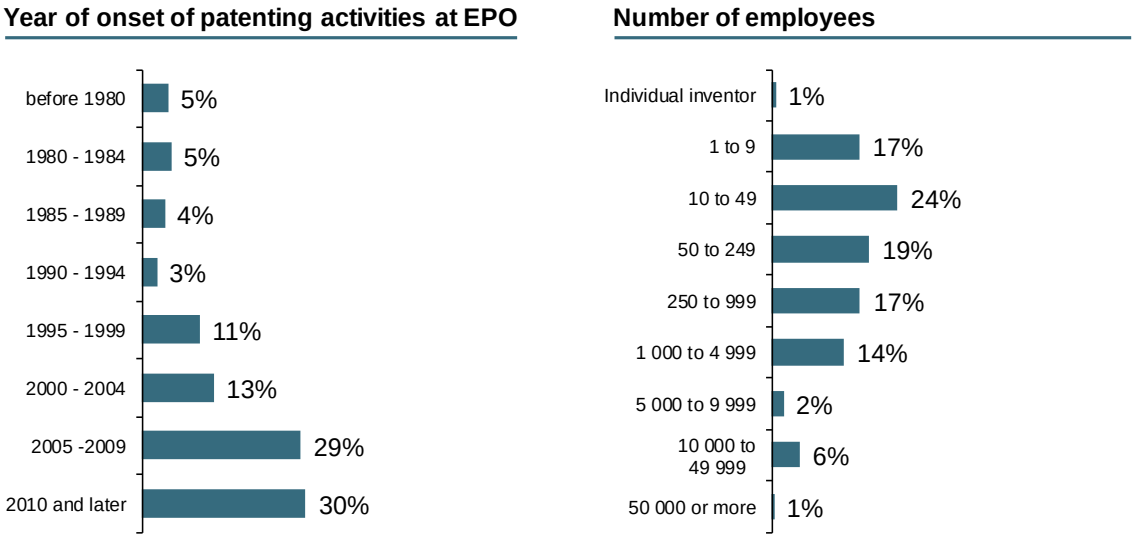


Figure 16: Estimated distribution of the EPO applicant population by year of onset of patenting activities at the EPO and by number of employees

The inference for the whole applicant population is that 5% of applicants were active at the EPO before 1980 (2012 report: 5%), and a majority – 72% – initiated patenting activities at the EPO after 1999 (2012 report: 63%). 61% of applicants have a maximum of 249 employees and 89% are private enterprises. Both distributions in **Figure 16** show a strong contrast to the data for the Biggest group in **Figure 14**.

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

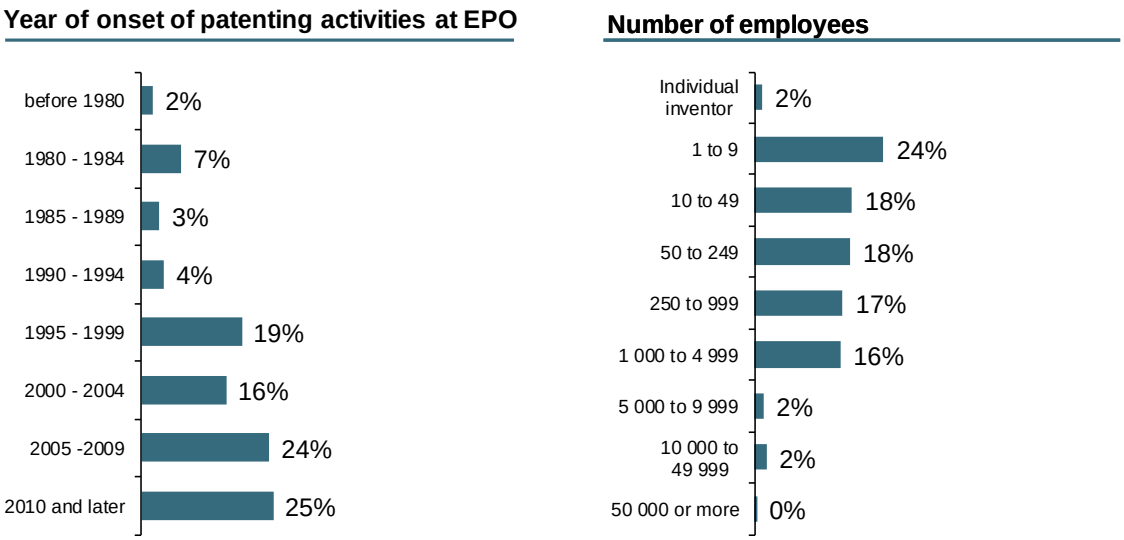


Figure 17: Estimated distribution of the EPO applicant population in the EPC (EP) residence bloc by year of onset of patenting activities at the EPO and by number of employees

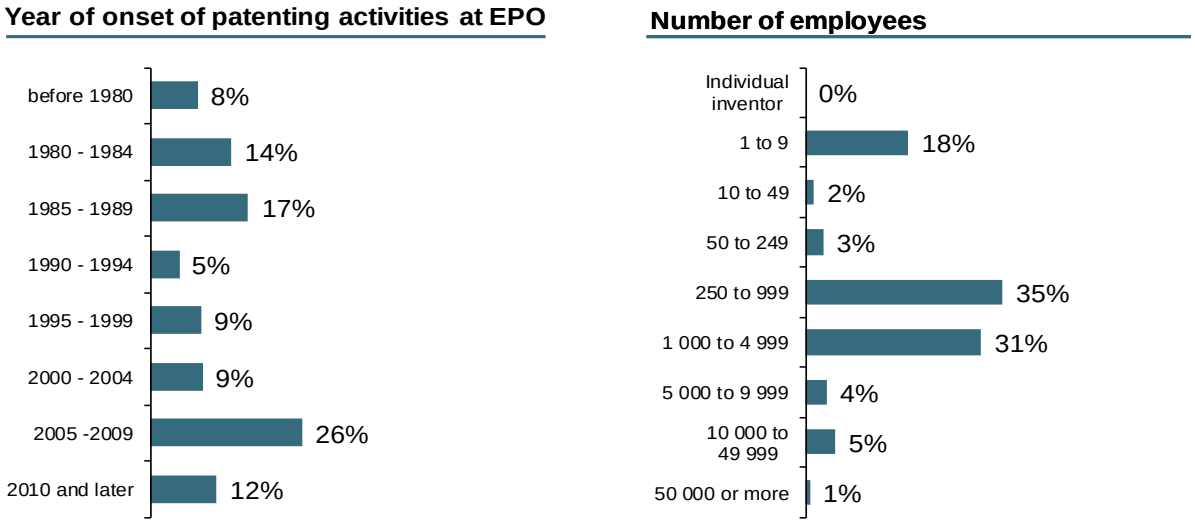


Figure 18: Estimated distribution of the EPO applicant population in the Japan (JP) residence bloc by year of onset of patenting activities at the EPO and by number of employees

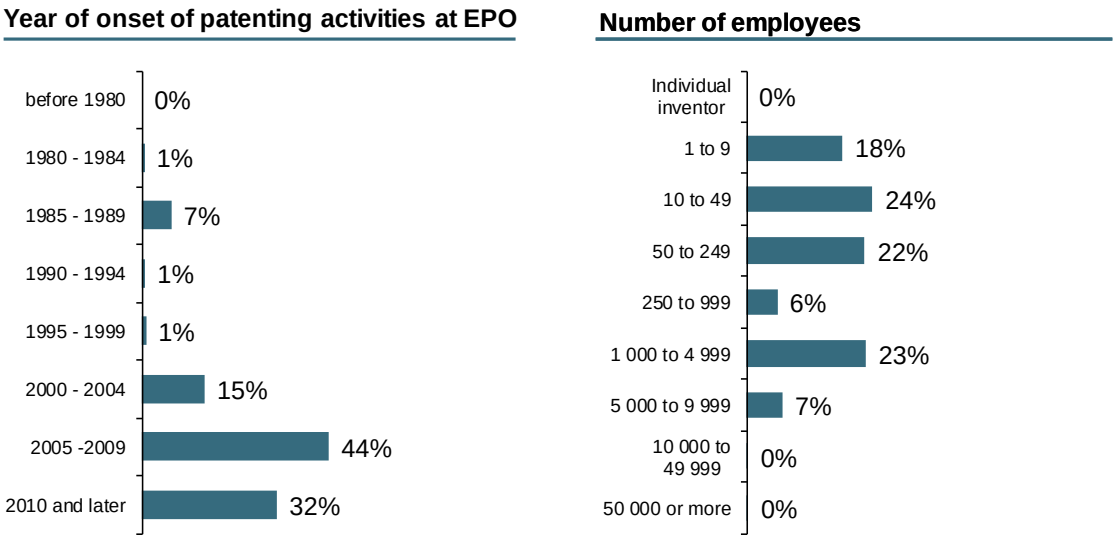


Figure 19: Estimated distribution of the EPO applicant population in the Others (OT) residence bloc by year of onset of patenting activities at the EPO and by number of employees

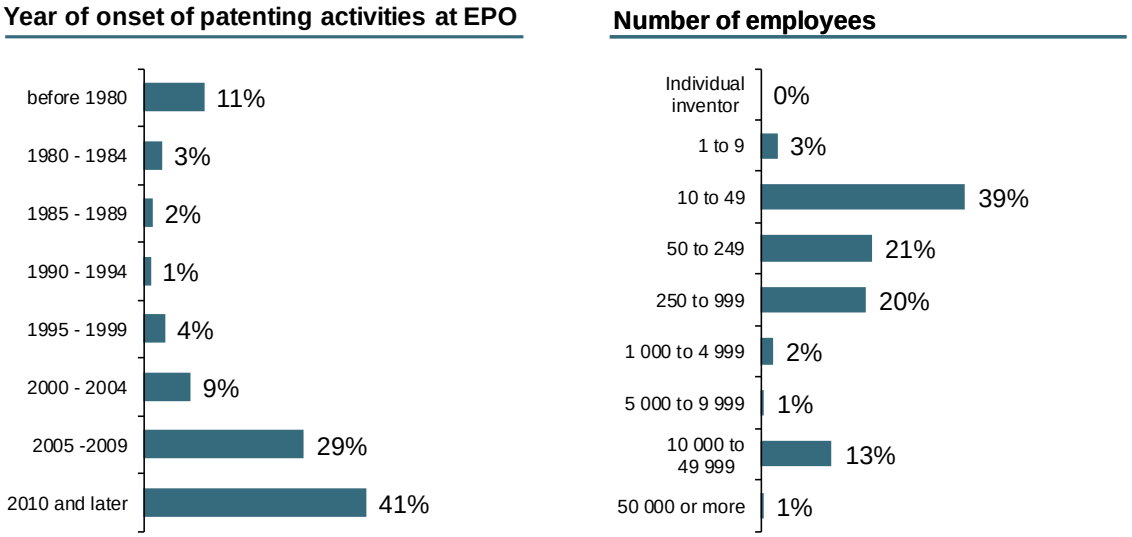


Figure 20: Estimated distribution of the EPO applicant population in the US residence bloc by year of onset of patenting activities at the EPO and by number of employees

Notable differences can be inferred between the typical histories of applicants from the various blocs. 11% of current US applicants at the EPO and 8% of current Japan applicants at the EPO were active at the EPO from the onset, in contrast to only 2% of current applicants from the EP residence bloc and none of the applicants from the OT residence bloc. There is a greater proportion of applicants from Japan and the OT residence blocs that started between 2005 and 2009 than started in 2010 or later, while the situation is the other way round for the remaining blocs.

Differences in company sizes are also striking: 62% of applicants from the EP bloc, 63% from the US bloc, and 64% from the OT bloc have fewer than 250 employees, while the industrial concentration in Japan means that only 23% have fewer than 250 employees But "SMEness" depends on more criteria than number of employees, and some further analysis of SME proportions appears in the next section.

Broken down by residence bloc, the inferred distributions of numbers of employees are shown in the following table:

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	**0.8%**	**16.9%**	**24.2%**	**18.7%**	**17.1%**	**13.9%**	**2.3%**	**5.5%**	**0.5%**	**100%**
EP	1.6%	24.4%	18.4%	18.0%	16.7%	16.2%	1.8%	2.4%	0.5%	100%
JP	0.0%	18.4%	1.5%	3.2%	35.3%	31.5%	3.8%	5.4%	0.8%	100%
OT	0.0%	18.1%	23.8%	22.4%	5.8%	22.5%	6.8%	0.3%	0.4%	100%
US	0.0%	3.2%	38.7%	21.0%	19.9%	2.4%	0.7%	13.5%	0.6%	100%

Table 61: Estimated distribution of EPO applicants by number of employees and residence bloc

12.5 Analysis of economic attributes

In **Part C** of the questionnaire, applicants were asked to provide more detailed information about their R&D budgets; inventions; numbers of staff and staff involved in making inventions; turnover and numbers of first patent filings throughout the world (with splits by joint clusters for R&D budgets and first filings). All responses were given with respect to activities in 2012.

For the questions on R&D budget and turnover, currencies had to be specified by the respondents. Therefore, before analysing Part C, the numbers given for R&D budget and turnover were recalculated to euros. Interbank exchange rates current as of 16th September, 2013 were applied to the responses to those questions.

The tables in this section contain three groups of attributes. The first group contains (from left to right): number of employees, the proportion of applicants which are SMEs[22], and based on this, the proportion of applications that are made by SMEs, the proportion of staff involved in making inventions, and the year the company started applying for patents at the EPO. The second group contains the approximate R&D budget, the approximate proportion of R&D expenditure related to activities that may result in first filings, the number of worldwide first patent filings, and the total number of inventions considered for patent applications. The third and final group contains ratio type characteristics, namely: first patent filings by number of inventions, total turnover by first patent filing, and R&D budget by first patent filing.

Summary results for the attributes from the Biggest group and the Random group are shown in **Table 62.** 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 more appropriate to compare the weighted medians rather than the weighted means. In order to convey the variability associated with the reported measures, 95% normal approximation confidence intervals for the weighted mean are given when reporting results for the Random group employing structural weights.[23] Also, for tables based on the Random group and employing structural weights, the "Weighted N" reported is the sum of standardised structural weights[24].

Detailed tables are shown in unweighted and weighted versions for the Random group in **Table 63** to **Table 66**. These tables contain breakdowns by residence bloc and mega cluster.

[22] SME determination was made based on the applicant declaration as given by the answer to C(i). SME status was set to NA if the respondent indicated that he is answering on behalf of a smaller or larger entity. For numbers of patent applications, these were the counts of Euro-direct + Euro-PCT-RP filings in 2012 from the EPO database, as were also used for calculating Poisson weights.

[23] Calculation of confidence intervals is based on a normal approximation. Thus the confidence interval is calculated as the weighted mean +/- 1.96 standard error of the weighted mean. For the binary variable “Proportion of SMEs among applicants”, a dummy coding (0=”not an SME”, 1=”SME”) was used. For further details, see Cochran, W.G., “Sampling Techniques”, *Wiley*, 1977, Chapter 3.

[24] Standardisation is performed so that the sum of standardised structural weights equals the unweighted sample size of the Random group. Since there are partial response rates to certain questions, this means that the sum of standardised structural weights is still not usually identical to the unweighted sample size.

For the analyses broken down by residence bloc, **Table 63** contains the unweighted analyses for the Random group and **Table 64** contains the weighted results of the Random group. For the analyses itemised by mega cluster, **Table 65** contains the unweighted analyses for the Random group and **Table 66** contains the weighted results of the Random group. 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 sampling effects as well as due to changes in economic circumstances of the applicants.

Several of the columns in the tables report on the same statistics as in earlier reports. Consider the weighted results from the Random group as in **Table 64** and **Table 66**.

In the first group of attributes, the median number of employees went up (100 vs. 70 previously, see also **Figure 14** to **Figure 20**). The proportion of SMEs among applicants is considered to be better estimated by the mean proportion than by the median (not shown). The mean decreased from 58% previously to 51% in the current survey, but with wide 95% confidence limits (41% to 61%). Note that this proportion is lower than the mean proportion of applicants with less than 250 employees of approximately 61% that was shown in **Figure 16**. The estimates for the proportion of SMEs vary by residence bloc between Japan at 18% and Others at 60%, with EPC at 53% being slightly higher than US at 49%. The proportion of applications made by SMEs (total applications in 2012, being the sum of Euro-direct and Euro-PCT-RP) were estimated from the weighted analysis as 19% overall with 95% confidence limits ranging from 13% to 25%. The estimates vary by residence bloc between Japan at 2% and Others at 42%, with EPC and US the same at 21%. Proportions of inventive staff are at a median of 12% compared to 17% previously. The year of onset of patent activities at EPO has a median in 2006 (see also **Figure 14** to **Figure 20**).

In the second group of attributes, the median R&D budget decreased from EUR 1.4 million in the previous survey to EUR 1.2 million. A topic that is reported for the first time in the current tables is the proportion of overall R&D expenditure spent specifically on activities that might lead to patent filings. This is estimated at a median of 30%, which is outside the 95% confidence limits for the mean percentage (31% to 42%). This suggests an asymmetric distribution for this property in the applicant population, and it will be interesting to follow-up the statistic more fully to get a better idea of the relationship of R&D expenditure to patenting. The median number of first filings is 4 compared to 5 previously The total number of patent inventions considered for patent applications is 3 compared to 5 previously, with a mean of 50 (43 previously), reflecting a long upper tail to this distribution.

In the third group of attributes, the ratio of the number of first filings to the number of inventions is 1.0, the same as previously, while median turnover per first patent filing is roughly EUR 16 million. The median R&D expenditure per first filing decreased slightly to EUR 420°000 compared to EUR 450 000 previously.

All the results are rather variable, and an idea of this is given by the wide 95% confidence limits for most of the respective weighted means, although these can be presumed to be more variable than the weighted medians. Many of the weighted medians (for 2012) are unlikely to be significantly different from the values reported in the previous survey (for 2011), which is illustrated by the fact that, in most cases, the reported values have moved back towards values reported two years ago (for 2010).

In **Section 12.4,** histograms were drawn to represent the distributions represented by the weighted means and medians for year of onset of patenting at EPO and number of employees. Similar histograms could also be constructed for the other measures described in this section.

By sample group

Sample group	Statistic	Number of employees at the end of 2012	Proportion of SMEs among applicants	Proportion of applications made by SMEs	Proportion of staff directly involved in making inventions	Year of onset of patenting activities at the EPO	Approximate R&D budget in 2012 [EUR]	Proportion of R&D expenditure spent on activities that might lead to first filings	Number of first patent filings throughout the world in 2012	Total number of inventions considered for patent application in 2012	First patent filings by number of inventions	Total turnover by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Biggest Unweighted	N	141	126	126	101	133	84	45	163	113	110	126	82
	MIN	1			0%	1978	7 700 000	1%	6	6	0.1	5	3 789
	MAX	390 610			100%	2012	6 112 018 000	100%	9 210	10 364	2.6	866 666 667	16 357 123
	MEDIAN	15 000			8%	1980	334 930 000	50%	270	470	0.8	13 030 199	852 543
	MEAN	45 105	1%	3%	12%	1984	985 698 533	45%	790	1 344	0.8	38 889 848	1 692 503
Random Unweighted	N	596	533	533	500	549	318	311	654	491	467	451	291
	MIN	1			0%	1978	500	0%	1	1	0.0	5	50
	MAX	363 000			100%	2013	6 112 018 000	100%	9 210	21 000	42.0	2 067 725 000	109 678 974
	MEDIAN	1 615			8%	1994	30 178 000	30%	20	21	0.8	17 142 857	763 333
	MEAN	14 308	22%	4%	18%	1993	345 265 431	38%	241	408	1.0	72 488 961	3 317 475
Random Weighted	WEIGHTED N	571	483	483	533	547	342	400	604	475	424	369	301
	MIN	1			0%	1978	500	0%	1	1	0.0	5	50
	MAX	363 000			100%	2013	6 112 018 000	100%	9 210	21 000	42.0	2 067 725 000	109 678 974
	MEDIAN	100			12%	2006	1 208 592	30%	4	3	1.0	15 890 000	420 000
	MEAN	2 509	51%	19%	25%	2003	38 274 100	37%	21	50	1.3	184 153 893	5 013 995
	MEAN 95% LB	1 213	41%	13%	20%	2001	24 262 181	31%	16	10	0.9	4 970 275	378 665
	MEAN 95% UB	3 805	61%	25%	29%	2005	52 286 019	42%	26	90	1.6	363 337 512	9 649 326

Table 62: Main statistics for the various sample groups

Random group
Unweighted

Residence bloc	Statistic	Number of employees at the end of 2012	Proportion of SMEs among applicants	Proportion of applications made by SMEs	Proportion of staff directly involved in making inventions	Year of onset of patenting activities at the EPO	Approximate R&D budget in 2012 [EUR]	Proportion of R&D expenditure spent on activities that might lead to first filings	Number of first patent filings throughout the world in 2012	Total number of inventions considered for patent application in 2012	First patent filings by number of inventions	Total turnover by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
EP	N	392	342	342	343	349	203	232	422	322	304	283	182
	MIN	1			0%	1978	500	0%	1	1	0.0	5 731	50
	MAX	363 000			100%	2013	4 800 000 000	100%	4 785	9 000	25.0	2 000 000 000	61 416 667
	MEDIAN	900			7%	1998	7 000 000	30%	11	12	0.8	21 053 700	909 618
	MEAN	11 886	28%	7%	19%	1995	234 450 157	39%	93	146	1.0	70 619 360	2 687 460
JP	N	126	121	121	87	110	63	30	130	102	99	114	62
	MIN	1			0%	1978	1 816 800	0%	1	2	0.0	5	72 672
	MAX	294 000			100%	2011	6 112 018 000	100%	9 210	21 000	1.8	681 300 000	37 770 910
	MEDIAN	4 538			8%	1982	208 727 610	9%	242	365	0.7	8 631 517	495 027
	MEAN	18 011	2%	0%	13%	1985	593 613 692	18%	729	1 169	0.7	29 731 375	1 970 268
OT	N	29	24	24	29	35	19	21	38	27	25	18	17
	MIN	2			0%	1980	108 921	1%	1	1	0.0	63 588	3 789
	MAX	170 000			100%	2012	3 674 608 000	90%	5 194	10 000	6.0	231 952 000	18 556 160
	MEDIAN	557			9%	2005	2 290 000	15%	20	10	1.0	13 460 833	707 472
	MEAN	12 948	38%	6%	25%	2002	231 909 499	30%	331	469	1.2	30 893 908	2 826 632
US	N	49	46	46	41	55	33	28	64	40	39	36	30
	MIN	5			0%	1978	75 190	7%	1	1	0.2	112 785	18 798
	MAX	300 000			85%	2012	4 511 400 000	100%	2 235	10 000	42.0	2 067 725 000	109 678 974
	MEDIAN	4 000			12%	1992	67 671 000	50%	39	54	0.8	59 431 108	2 367 590
	MEAN	24 970	22%	1%	20%	1992	618 093 394	54%	168	537	1.8	243 382 653	10 201 943
Total	N	596	533	533	500	549	318	311	654	491	467	451	291
	MEDIAN	1 615			8%	1994	30 178 000	0	20	21	0.8	17 142 857	763 333
	MEAN	14 308	22%	4%	18%	1993	345 265 431	0	241	408	1.0	72 488 961	3 317 475

Table 63: Main statistics for activities by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Statistic	Number of employees at the end of 2012	Proportion of SMEs among applicants	Proportion of applications made by SMEs	Proportion of staff directly involved in making inventions	Year of onset of patenting activities at the EPO	Approximate R&D budget in 2012 [EUR]	Proportion of R&D expenditure spent on activities that might lead to first filings	Number of first patent filings throughout the world in 2012	Total number of inventions considered for patent application in 2012	First patent filings by number of inventions	Total turnover by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
EP	WEIGHTED N	287	258	258	273	260	144	212	268	235	207	166	116
	MIN	1			0%	1978	500	0%	1	1	0.0	5 731	50
	MAX	363 000			100%	2013	4 800 000 000	100%	4 785	9 000	25.0	2 000 000 000	61 416 667
	MEDIAN	70			10%	2004	500 000	25%	3	3	1.0	12 000 000	250 000
	MEAN	1 527	53%	21%	25%	2002	20 933 648	36%	12	18	1.2	47 983 116	1 074 926
	MEAN 95% LB	1 147	45%	15%	20%	2000	12 596 123	30%	9	11	0.8	23 845 278	725 371
	MEAN 95% UB	1 907	61%	28%	30%	2003	29 271 173	42%	15	24	1.6	72 120 954	1 424 481
JP	WEIGHTED N	31	25	25	28	26	10	11	32	26	26	22	10
	MIN	1			0%	1978	1 816 800	0%	1	2	0.0	5	72 672
	MAX	294 000			100%	2011	6 112 018 000	100%	9 210	21 000	1.8	681 300 000	37 770 910
	MEDIAN	550			13%	1998	15 140 000	10%	13	21	0.7	9 926 845	772 771
	MEAN	3 273	18%	2%	27%	1996	160 796 193	14%	121	506	0.7	56 176 638	1 752 081
	MEAN 95% LB	1 750	0%	0%	8%	1991	43 123 543	9%	64	0	0.5	0	904 320
	MEAN 95% UB	4 796	39%	4%	46%	2002	278 468 843	20%	179	1 222	0.8	115 803 530	2 599 841
OT	WEIGHTED N	83	63	63	83	94	56	63	79	78	68	48	46
	MIN	2			0%	1980	108 921	1%	1	1	0.0	63 588	3 789
	MAX	170 000			100%	2012	3 674 608 000	90%	5 194	10 000	6.0	231 952 000	18 556 160
	MEDIAN	79			10%	2008	1 208 592	15%	6	3	1.0	14 390 000	751 900
	MEAN	1 897	60%	42%	26%	2006	15 045 461	31%	25	24	1.5	36 738 059	2 909 415
	MEAN 95% LB	415	35%	21%	13%	2003	1 686 548	15%	10	2	0.7	8 034 176	387 035
	MEAN 95% UB	3 378	85%	62%	39%	2008	28 404 374	46%	41	46	2.3	65 441 941	5 431 796
US	WEIGHTED N	169	138	138	149	167	133	114	227	136	123	133	130
	MIN	5			0%	1978	75 190	7%	1	1	0.2	112 785	18 798
	MAX	300 000			85%	2012	4 511 400 000	100%	2 235	10 000	42.0	2 067 725 000	109 678 974
	MEDIAN	115			13%	2008	7 519 000	50%	6	4	1.0	17 812 617	2 318 358
	MEAN	4 337	49%	21%	22%	2003	57 911 385	44%	16	32	1.4	428 977 836	9 515 938
	MEAN 95% LB	81	20%	5%	13%	1997	21 408 899	33%	8	6	0.5	0	0
	MEAN 95% UB	8 592	78%	38%	30%	2009	94 413 871	55%	24	59	2.3	896 110 110	19 573 899
Total	WEIGHTED N	571	483	483	533	547	342	400	604	475	424	369	301
	MEDIAN	100			12%	2006	1 208 592	30%	4	3	1.0	15 890 000	420 000
	MEAN	2 509	51%	19%	25%	2003	38 274 100	37%	21	50	1.3	184 153 893	5 013 995
	MEAN 95% LB	1 213	41%	13%	20%	2001	24 262 181	31%	16	10	0.9	4 970 275	378 665
	MEAN 95% UB	3 805	61%	25%	29%	2005	52 286 019	42%	26	90	1.6	363 337 512	9 649 326

Table 64: Main statistics for activities by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Statistic	Number of employees at the end of 2012	Proportion of SMEs among applicants	Proportion of applications made by SMEs	Proportion of staff directly involved in making inventions	Year of onset of patenting activities at the EPO	Approximate R&D budget in 2012 [EUR]	Proportion of R&D expenditure spent on activities that might lead to first filings	Number of first patent filings throughout the world in 2012	Total number of inventions considered for patent application in 2012	First patent filings by number of inventions	Total turnover by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Electricity	N	182	162	162	145	167	83	81	185	153	146	138	77
	MIN	1			0%	1978	600	0%	1	1	0.1	5	50
	MAX	363 000			100%	2013	2 922 500 000	100%	5 810	10 000	25.0	581 250 000	61 416 667
	MEDIAN	3 000			11%	1991	40 000 000	40%	18	52	0.7	11 041 459	905 085
	MEAN	26 099	17%	0%	23%	1992	271 922 198	43%	234	709	0.9	31 554 162	3 076 545
Organic Chemistry	N	126	115	115	115	123	73	64	135	111	108	98	69
	MIN	1			0%	1978	30 000	1%	1	1	0.0	9 231	3 789
	MAX	363 000			100%	2012	4 511 400 000	100%	1 316	10 000	42.0	2 000 000 000	76 635 962
	MEDIAN	3 000			14%	1992	30 076 000	40%	13	28	0.8	14 070 000	1 790 190
	MEAN	18 894	22%	8%	24%	1993	253 178 253	45%	84	544	1.4	68 662 365	5 166 940
Inorganic Chemistry	N	120	120	120	99	108	60	61	128	105	104	96	59
	MIN	1			0%	1978	50 000	0%	1	1	0.1	9 231	3 789
	MAX	294 000			100%	2012	939 875 000	100%	1 316	6 800	21.0	1 181 818 182	17 818 182
	MEDIAN	3 195			9%	1986	31 064 290	50%	20	35	0.8	12 688 354	527 716
	MEAN	14 145	13%	11%	18%	1991	92 389 488	43%	117	390	1.2	58 981 131	1 572 637
ICT	N	94	87	87	77	90	44	36	89	80	77	74	43
	MIN	1			0%	1978	70 000	1%	1	1	0.0	5	13 750
	MAX	300 000			100%	2012	3 634 000 000	100%	2 280	10 000	3.0	2 067 725 000	19 500 000
	MEDIAN	3 211			12%	1993	116 000 000	30%	24	94	0.8	11 474 286	1 003 135
	MEAN	33 465	16%	0%	22%	1993	477 611 901	36%	281	986	0.8	66 053 152	2 553 682
Traditional	N	344	309	309	299	325	177	188	335	294	276	269	166
	MIN	1			0%	1978	500	0%	1	1	0.0	5 731	50
	MAX	363 000			100%	2012	6 112 018 000	100%	5 474	21 000	15.0	2 067 725 000	109 678 974
	MEDIAN	1 690			5%	1992	15 140 000	20%	13	22	0.8	16 769 184	715 000
	MEAN	16 923	22%	1%	16%	1993	198 690 807	36%	142	454	0.8	65 591 805	3 303 099

Table 65: Main statistics for activities in various sectors – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Statistic	Number of employees at the end of 2012	Proportion of SMEs among applicants	Proportion of applications made by SMEs	Proportion of staff directly involved in making inventions	Year of onset of patenting activities at the EPO	Approximate R&D budget in 2012 [EUR]	Proportion of R&D expenditure spent on activities that might lead to first filings	Number of first patent filings throughout the world in 2012	Total number of inventions considered for patent application in 2012	First patent filings by number of inventions	Total turnover by first patent filing [EUR per first filing]	R&D budget by first patent filing [EUR per first filing]
Electricity	WEIGHTED N	154	112	112	131	111	82	84	135	91	86	93	76
	MIN	1			0%	1978	600	0%	1	1	0.1	5	50
	MAX	363 000			100%	2013	2 922 500 000	100%	5 810	10 000	25.0	581 250 000	61 416 667
	MEDIAN	150			13%	2001	751 900	50%	2	5	0.7	16 165 850	500 000
	MEAN	4 863	46%	7%	26%	1998	25 225 804	46%	20	85	0.8	100 152 274	2 498 752
	MEAN 95% LB	636	28%	3%	16%	1991	7 789 461	37%	10	43	0.7	0	260 174
	MEAN 95% UB	9 091	65%	12%	36%	2004	42 662 146	55%	29	128	1.0	236 339 061	4 737 331
Organic Chemistry	WEIGHTED N	126	79	79	120	104	91	79	111	103	97	92	78
	MIN	1			0%	1978	30 000	1%	1	1	0.0	9 231	3 789
	MAX	363 000			100%	2012	4 511 400 000	100%	1 316	10 000	42.0	2 000 000 000	76 635 962
	MEDIAN	250			13%	2006	2 271 000	33%	4	4	1.0	14 390 000	2 575 000
	MEAN	5 139	55%	17%	26%	2004	28 235 577	42%	11	44	2.0	133 155 835	4 309 414
	MEAN 95% LB	315	38%	5%	15%	2002	6 831 414	29%	7	16	0.8	155 079	2 346 743
	MEAN 95% UB	9 962	72%	30%	37%	2006	49 639 739	55%	16	72	3.2	266 156 590	6 272 084
Inorganic Chemistry	WEIGHTED N	85	87	87	79	88	49	78	80	87	85	66	50
	MIN	1			0%	1978	50 000	0%	1	1	0.1	9 231	3 789
	MAX	294 000			100%	2012	939 875 000	100%	1 316	6 800	21.0	1 181 818 182	17 818 182
	MEDIAN	61			15%	2009	375 950	30%	4	4	1.0	1 900 000	225 570
	MEAN	3 189	50%	19%	19%	2003	11 365 946	39%	18	36	1.7	29 976 846	570 035
	MEAN 95% LB	1 002	26%	6%	11%	2000	1 519 510	27%	9	15	0.6	3 665 421	154 019
	MEAN 95% UB	5 375	74%	32%	27%	2007	21 212 382	50%	26	57	2.7	56 288 272	986 050
ICT	WEIGHTED N	79	83	83	76	94	38	35	75	84	81	59	38
	MIN	1			0%	1978	70 000	1%	1	1	0.0	5	13 750
	MAX	300 000			100%	2012	3 634 000 000	100%	2 280	10 000	3.0	2 067 725 000	19 500 000
	MEDIAN	195			11%	2006	46 276 438	15%	3	4	1.0	15 000 000	2 416 821
	MEAN	3 355	51%	7%	21%	2005	73 292 726	39%	19	61	1.1	226 502 869	7 093 119
	MEAN 95% LB	1 157	20%	1%	12%	2003	24 701 748	22%	6	11	0.8	0	0
	MEAN 95% UB	5 553	82%	13%	31%	2008	121 883 704	57%	32	110	1.3	575 037 120	14 724 554
Traditional	WEIGHTED N	333	275	275	309	313	167	264	300	264	219	214	149
	MIN	1			0%	1978	500	0%	1	1	0.0	5 731	50
	MAX	363 000			100%	2012	6 112 018 000	100%	5 474	21 000	15.0	2 067 725 000	109 678 974
	MEDIAN	120			10%	2007	751 900	30%	3	3	0.9	14 000 000	322 243
	MEAN	3 014	50%	18%	24%	2003	18 597 289	36%	13	67	1.0	121 267 520	2 294 147
	MEAN 95% LB	894	37%	10%	18%	1999	9 667 502	29%	10	0	0.8	5 743 836	817 096
	MEAN 95% UB	5 134	64%	27%	30%	2006	27 527 076	43%	17	139	1.1	236 791 204	3 771 198

Table 66: Main statistics for activities in various sectors – Random group (weighted)

13 Annex VII: Additional topics in this year's survey

The 2013 survey included additional questions on applicant assessments of their European patent portfolios and on the relevance of combinations of specific types of intellectual property rights. Summary results from Biggest and Random groups appear in **Table 67** and **Table 72**, while the other tables give more detailed results from the Random group.

Table 67 to **Table 71** contain statistics on three groups of attributes, based on the answers to questions in Sections D and E of the questionnaire. Results for the Random group, broken down by residence bloc, are shown in **Table 68** (without weighting) and **Table 69** (with structural weights). Results for the Random group, broken down by mega cluster, are shown in **Table 70** (without weighting) and **Table 71** (with structural weights).

The first group of results in each table contains (from left to right): the proportion of 2012 European patent portfolios which were non-existent in 2000, the growth from 2000 to 2012 of those European patent portfolios which existed in 2000, an estimate of the monetary value of European patent portfolios in euros, and an assessment of the importance of European patents to the business.

The weighted results indicate an estimate of the mean proportion of portfolios that were non-existent in 2000 as 52% (with 95% confidence limits from 42% to 63%). So roughly half of EPO's applicants in 2012 had started filing after the year 2000, a proportion that seems quite low compared to some other studies. The weighted median portfolio growth rate since the year 2000, for those with patent portfolios in 2000, was 220%, but with an asymmetric distribution because the weighted mean was 594%. For the monetary value of the portfolio, although a weighted median of EUR 363 000 and weighted mean of EUR 24 million are reported, this question was only answered by 91 respondents that were mainly from the EPC bloc. So it is more relevant to report results for the EPC bloc with their 74 responses. The EPC bloc reports a weighted median of EUR 500 000 and weighted mean of EUR 13.5 million (with 95% confidence limits from EUR 900 000 to EUR 26 million). Regarding the importance of European patents, this was given a high rating (at 4 or more) by applicants from all blocs except for Japan, whose rank was more neutral (around 3).

The second group of results in each table reports on the proportion of respondents who also file trademark applications (worldwide and Community trademark applications), and on the proportion of respondents who also file registered design applications (worldwide and Community registered design applications). The weighted results indicate estimates of mean proportions of 35% filing trademark applications (17% for Community trademark applications at OHIM, but 30% for Community applications from EPC residents), and 18% filing registered design applications (10% for Community registered design applications, remains at 10% for Community registered designs for EPC residents). Japan resident applicants report a somewhat higher proportion for registered designs (24%) at the expense of trademarks (15%). In **Table 71** it is suggested that the usage of trademarks is more prevalent in the Inorganic Chemistry and Traditional mega clusters and the usage of registered designs is most prevalent in the Electricity mega cluster.

The third and final group of results in each table contains expected one-year growth rates (from 2012 to 2013) for trademark applications (worldwide and Community trademark applications) and for registered design applications (worldwide and Community registered design applications). Generally, the Totals show declines for all 4 columns, except for the weighted mean for trademarks in Column 11, which is positive, but not significantly so. The only weighted mean in the table that is significantly different from 0 is positive growth for Community registered designs from Japan.

In more detail, the weighted results suggest a mean increase in trademark applications of 4%, but a drop in Community trademark applications of 12%. Regarding blocs of residence, there may have been a big increase in trademark applications from Japan and a drop from the US. But for Community trademark applications there may, somewhat paradoxically, be an increase in these from the US, although the 95% confidence limits on the growth estimate are very wide. For registered designs, the results suggest a mean decrease of 13%, both as a whole and for Community registered designs. The Others bloc, however, suggests growth for registered designs as a whole, although this is only based on 7 responses. Community registered design applications are significantly increasing from Japan residents. In **Table 71**, there seems to be no special message about differences in growth rates for trademarks in general or Community trademarks between mega clusters. For registered designs, however, there is a suggestion for growth in Electricity. For registered Community designs, the growth is lower (or more negative) than for designs in general, except for the Electricity cluster, which is strongly positive. The strength from Japanese residents and in Electricity probably explains why the overall growth rates for registered designs and for Community registered designs are not even more negative than reported.

By sample group

Sample group	Statistic	Proportion of 2012 European patent portfolios which were nonexistent in 2000	Growth of European patent portfolios from 2000 to 2012	Monetary estimate of total value of European patent portfolio [EUR]	Importance of European patents to your business (1=not important, 2, 3, 4, 5=very important)	Proportion of respondents who also file trademark applications	Proportion of respondents who also file Community trademark applications (OHIM)	Proportion of respondents who also file registered design applications	Proportion of respondents who also file Community registered design applications (OHIM)	Expected growth in trademark applications from 2012 to 2013	Expected growth in Community trademark applications (OHIM) from 2012 to 2013	Expected growth in registered design applications from 2012 to 2013	Expected growth in Community registered design applications (OHIM) from 2012 to 2013
Biggest Unweighted	N	78	64	6	137	106	93	122	107	76	54	62	45
	MIN		-57%	1 000 000	2					-100%	-100%	-100%	-100%
	MAX		107680%	250 000 000	5					119%	233%	650%	700%
	MEDIAN		96%	64 327 500	5					0%	0%	0%	0%
	MEAN	10%	2205%	80 275 833	4.21	92%	71%	69%	54%	-5%	21%	22%	40%
Random Unweighted	N	421	225	91	594	503	409	526	425	261	152	169	92
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	500 000 000	5					1400%	1100%	2900%	2900%
	MEDIAN		152%	1 146 200	4					0%	0%	0%	0%
	MEAN	37%	1037%	23 298 031	3.94	60%	44%	39%	27%	16%	27%	36%	49%
Random Weighted	WEIGHTED N	472	106	125	602	498	384	485	364	165	61	79	35
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	500 000 000	5					1400%	1100%	2900%	2900%
	MEDIAN		220%	363 070	4					-25%	-29%	-22%	-33%
	MEAN	52%	594%	24 392 174	3.76	35%	17%	18%	10%	4%	-12%	-13%	-13%
	MEAN 95% LB	42%	347%	4 076 759	3.58	26%	12%	12%	5%	-35%	-39%	-43%	-62%
	MEAN 95% UB	63%	841%	44 707 588	3.95	44%	23%	23%	15%	43%	14%	16%	37%

Table 67: Assessment of European patent portfolios, combinations of European patent portfolios with other IP right types and estimated 2012-2013 growth of other IP right types by sample group

Random group
Unweighted

Residence bloc	Statistic	Proportion of 2012 European patent portfolios which were nonexistent in 2000	Growth of European patent portfolios from 2000 to 2012	Monetary estimate of total value of European patent portfolio [EUR]	Importance of European patents to your business (1=not important, 2, 3, 4, 5=very important)	Proportion of respondents who also file trademark applications	Proportion of respondents who also file Community trademark applications (OHIM)	Proportion of respondents who also file registered design applications	Proportion of respondents who also file Community registered design applications (OHIM)	Expected growth in trademark applications from 2012 to 2013	Expected growth in Community trademark applications (OHIM) from 2012 to 2013	Expected growth in registered design applications from 2012 to 2013	Expected growth in Community registered design applications (OHIM) from 2012 to 2013
EP	N	281	152	74	387	315	241	330	248	151	98	84	56
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		8200%	500 000 000	5					1400%	900%	2900%	2900%
	MEDIAN		200%	1 273 100	4					0%	0%	0%	0%
	MEAN	39%	554%	22 196 584	3.98	53%	46%	29%	25%	18%	19%	38%	62%
JP	N	65	42	1	109	116	105	119	110	73	35	61	25
	MIN		-90%	1 286 900	1					-100%	-100%	-100%	-100%
	MAX		8500%	1 286 900	5					1400%	233%	900%	700%
	MEDIAN		64%	1 286 900	4					0%	0%	0%	7%
	MEAN	15%	409%	1 286 900	3.75	84%	46%	71%	35%	24%	22%	21%	35%
OT	N	33	6	10	36	30	24	31	26	11	2	7	2
	MIN		136%	0	1					-90%	0%	-100%	-80%
	MAX		107680%	100 000 000	5					140%	7%	100%	75%
	MEDIAN		975%	557 485	4					-19%	4%	0%	-3%
	MEAN	73%	18602%	16 657 911	3.94	37%	8%	29%	12%	-2%	4%	-18%	-3%
US	N	42	25	6	62	42	39	46	41	26	17	17	9
	MIN		-57%	0	1					-100%	-100%	-100%	-100%
	MAX		5492%	225 570 000	5					100%	1100%	1400%	300%
	MEDIAN		246%	4 323 425	4					-14%	5%	0%	0%
	MEAN	26%	813%	51 617 935	4.02	62%	44%	37%	22%	-14%	89%	102%	16%
TOTAL	N	421	225	91	594	503	409	526	425	261	152	169	92
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	500 000 000	5					1400%	1100%	2900%	2900%
	MEDIAN		152%	1 146 200	4					0%	0%	0%	0%
	MEAN	37%	1037%	23 298 031	3.94	60%	44%	39%	27%	16%	27%	36%	49%

Table 68: Assessment of European patent portfolios, combinations of European patent portfolios with other IP right types and estimated 2012-2013 growth of other IP right types activities, broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

Residence bloc	Statistic	Proportion of 2012 European patent portfolios which were nonexistent in 2000	Growth of European patent portfolios from 2000 to 2012	Monetary estimate of total value of European patent portfolio [EUR]	Importance of European patents to your business (1=not important, 2, 3, 4, 5=very important)	Proportion of respondents who also file trademark applications	Proportion of respondents who also file Community trademark applications (OHIM)	Proportion of respondents who also file registered design applications	Proportion of respondents who also file Community registered design applications (OHIM)	Expected growth in trademark applications from 2012 to 2013	Expected growth in Community trademark applications (OHIM) from 2012 to 2013	Expected growth in registered design applications from 2012 to 2013	Expected growth in Community registered design applications (OHIM) from 2012 to 2013
EP	WEIGHTED N	281	152	74	387	315	241	330	248	151	98	84	56
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		8200%	500 000 000	5					1400%	900%	2900%	2900%
	MEDIAN		200%	500 000	4					-47%	-50%	-33%	0%
	MEAN	52%	442%	13 511 095	3.67	38%	30%	17%	10%	13%	-35%	-20%	11%
	MEAN 95% LB	44%	221%	914 316	3.48	30%	21%	11%	5%	-44%	-56%	-54%	-60%
	MEAN 95% UB	61%	662%	26 107 874	3.85	45%	38%	23%	16%	69%	-14%	14%	81%
JP	WEIGHTED N	65	42	1	109	116	105	119	110	73	35	61	25
	MIN		-90%	1 286 900	1					-100%	-100%	-100%	-100%
	MAX		8500%	1 286 900	5					1400%	233%	900%	700%
	MEDIAN		80%	1 286 900	3					0%	0%	-9%	100%
	MEAN	46%	520%	1 286 900	3.21	69%	15%	54%	24%	91%	25%	-1%	75%
	MEAN 95% LB	18%	53%	1 286 900	2.71	47%	6%	32%	2%	-42%	-40%	-23%	39%
	MEAN 95% UB	74%	987%	1 286 900	3.71	91%	24%	77%	46%	224%	90%	20%	111%
OT	WEIGHTED N	33	6	10	36	30	24	31	26	11	2	7	2
	MIN		136%	0	1					-90%	0%	-100%	-80%
	MAX		107680%	100 000 000	5					140%	7%	100%	75%
	MEDIAN		350%	363 070	5					-24%	0%	100%	-80%
	MEAN	74%	1684%	25 038 950	4.17	24%	0%	10%	1%	7%	2%	60%	-4%
	MEAN 95% LB	56%	-100%	0	3.75	6%	0%	0%	0%	-41%	-2%	-1%	-100%
	MEAN 95% UB	93%	3527%	53 989 428	4.59	42%	1%	23%	3%	55%	5%	120%	103%
US	WEIGHTED N	42	25	6	62	42	39	46	41	26	17	17	9
	MIN		-57%	0	1					-100%	-100%	-100%	-100%
	MAX		5492%	225 570 000	5					100%	1100%	1400%	300%
	MEDIAN		250%	300 760	4					-63%	0%	-50%	-80%
	MEAN	39%	551%	64 943 775	3.77	31%	11%	17%	13%	-39%	52%	-32%	-66%
	MEAN 95% LB	12%	240%	0	3.36	8%	0%	2%	0%	-90%	-41%	-90%	-100%
	MEAN 95% UB	67%	862%	167 299 328	4.18	54%	22%	31%	28%	11%	144%	25%	-31%
TOTAL	WEIGHTED N	421	225	91	594	503	409	526	425	261	152	169	92
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	500 000 000	5					1400%	1100%	2900%	2900%
	MEDIAN		220%	363 070	4					-25%	-29%	-22%	-33%
	MEAN	52%	594%	24 392 174	3.76	35%	17%	18%	10%	4%	-12%	-13%	-13%
	MEAN 95% LB	42%	347%	4 076 759	3.58	26%	12%	12%	5%	-35%	-39%	-43%	-62%
	MEAN 95% UB	63%	841%	44 707 588	3.95	44%	23%	23%	15%	43%	14%	16%	37%

Table 69: Assessment of European patent portfolios, combinations of European patent portfolios with other IP right types and estimated 2012-2013 growth of other IP right types, broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Statistic	Proportion of 2012 European patent portfolios which were nonexistent in 2000	Growth of European patent portfolios from 2000 to 2012	Monetary estimate of total value of European patent portfolio [EUR]	Importance of European patents to your business (1=not important, 2, 3, 4, 5=very important)	Proportion of respondents who also file trademark applications	Proportion of respondents who also file Community trademark applications (OHIM)	Proportion of respondents who also file registered design applications	Proportion of respondents who also file Community registered design applications (OHIM)	Expected growth in trademark applications from 2012 to 2013	Expected growth in Community trademark applications (OHIM) from 2012 to 2013	Expected growth in registered design applications from 2012 to 2013	Expected growth in Community registered design applications (OHIM) from 2012 to 2013
Electricity	N	120	68	21	174	150	124	162	133	86	46	64	39
	MIN		-49%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	250 000 000	5					900%	900%	2900%	2900%
	MEDIAN		200%	500 000	4					-14%	0%	0%	0%
	MEAN	37%	2184%	26 037 724	3.82	67%	44%	48%	35%	-3%	27%	47%	78%
Organic Chemistry	N	93	49	16	132	115	99	119	99	63	34	27	13
	MIN		-71%	9 766	1					-100%	-100%	-100%	-100%
	MAX		2600%	250 000 000	5					732%	108%	900%	233%
	MEDIAN		96%	1 860 400	5					0%	0%	0%	-46%
	MEAN	43%	324%	20 587 337	4.20	59%	38%	27%	16%	29%	-4%	26%	-29%
Inorganic Chemistry	N	85	54	19	126	108	93	109	91	61	36	27	15
	MIN		-59%	5 000	1					-100%	-100%	-100%	-100%
	MAX		8200%	225 570 000	5					732%	1100%	1400%	150%
	MEDIAN		98%	2 500 000	4					0%	0%	0%	0%
	MEAN	29%	481%	16 604 122	4.02	65%	44%	32%	21%	8%	36%	58%	-20%
ICT	N	67	36	11	93	78	60	85	65	42	22	26	16
	MIN		-49%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	250 000 000	5					200%	900%	100%	400%
	MEDIAN		243%	270 000	4					-1%	0%	0%	0%
	MEAN	36%	3804%	43 342 879	3.80	68%	48%	41%	34%	-12%	37%	-13%	13%
Traditional	N	250	137	64	344	296	245	313	258	157	91	106	58
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		8500%	500 000 000	5					1400%	400%	2900%	2900%
	MEDIAN		162%	1 073 100	4					-2%	0%	0%	0%
	MEAN	34%	600%	23 509 041	3.90	60%	42%	41%	28%	20%	0%	41%	65%

Table 70: Assessment of European patent portfolios, combinations of European patent portfolios with other IP right types and estimated 2012-2013 growth of other IP right types, broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Statistic	Proportion of 2012 European patent portfolios which were nonexistent in 2000	Growth of European patent portfolios from 2000 to 2012	Monetary estimate of total value of European patent portfolio [EUR]	Importance of European patents to your business (1=not important, 2, 3, 4, 5=very important)	Proportion of respondents who also file trademark applications	Proportion of respondents who also file Community trademark applications (OHIM)	Proportion of respondents who also file registered design applications	Proportion of respondents who also file Community registered design applications (OHIM)	Expected growth in trademark applications from 2012 to 2013	Expected growth in Community trademark applications (OHIM) from 2012 to 2013	Expected growth in registered design applications from 2012 to 2013	Expected growth in Community registered design applications (OHIM) from 2012 to 2013
Electricity	WEIGHTED N	120	68	21	174	150	124	162	133	86	46	64	39
	MIN		-49%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	250 000 000	5					900%	900%	2900%	2900%
	MEDIAN		200%	500 000	4					-44%	-100%	0%	100%
	MEAN	46%	872%	27 890 808	3.91	33%	12%	25%	15%	25%	-26%	40%	99%
	MEAN 95% LB	25%	80%	47 405	3.67	18%	3%	12%	4%	-93%	-85%	-21%	1%
	MEAN 95% UB	66%	1664%	55 734 211	4.15	49%	22%	38%	26%	142%	33%	100%	197%
Organic Chemistry	WEIGHTED N	93	49	16	132	115	99	119	99	63	34	27	13
	MIN		-71%	9 766	1					-100%	-100%	-100%	-100%
	MAX		2600%	250 000 000	5					732%	108%	900%	233%
	MEDIAN		363%	1 127 850	4					0%	0%	0%	0%
	MEAN	68%	728%	2 378 693	4.16	29%	10%	9%	2%	29%	-8%	3%	-38%
	MEAN 95% LB	53%	184%	352 293	3.89	15%	4%	2%	0%	-4%	-43%	-32%	-85%
	MEAN 95% UB	84%	1271%	4 405 093	4.44	42%	17%	15%	5%	62%	27%	37%	10%
Inorganic Chemistry	WEIGHTED N	85	54	19	126	108	93	109	91	61	36	27	15
	MIN		-59%	5 000	1					-100%	-100%	-100%	-100%
	MAX		8200%	225 570 000	5					732%	1100%	1400%	150%
	MEDIAN		220%	300 760	4					-24%	0%	-50%	-33%
	MEAN	49%	728%	45 819 239	3.91	39%	20%	21%	12%	-6%	53%	-8%	-42%
	MEAN 95% LB	23%	-100%	0	3.62	21%	8%	5%	1%	-35%	-39%	-84%	-92%
	MEAN 95% UB	75%	1595%	119 578 158	4.19	57%	33%	37%	24%	22%	146%	68%	7%
ICT	WEIGHTED N	67	36	11	93	78	60	85	65	42	22	26	16
	MIN		-49%	0	1					-100%	-100%	-100%	-100%
	MAX		107680%	250 000 000	5					200%	900%	100%	400%
	MEDIAN		1200%	100 000	4					0%	-100%	100%	-33%
	MEAN	50%	1950%	31 135 620	3.78	19%	12%	11%	3%	-7%	-25%	21%	1%
	MEAN 95% LB	21%	296%	0	3.17	6%	0%	0%	0%	-68%	-98%	-75%	-63%
	MEAN 95% UB	79%	3603%	70 708 204	4.39	33%	23%	23%	7%	53%	48%	117%	64%
Traditional	WEIGHTED N	250	137	64	344	296	245	313	258	157	91	106	58
	MIN		-100%	0	1					-100%	-100%	-100%	-100%
	MAX		8500%	500 000 000	5					1400%	400%	2900%	2900%
	MEDIAN		200%	350 000	4					-50%	-50%	-22%	-33%
	MEAN	52%	565%	11 788 639	3.57	35%	18%	17%	10%	-12%	-42%	-20%	2%
	MEAN 95% LB	39%	280%	0	3.33	23%	10%	10%	3%	-60%	-63%	-51%	-70%
	MEAN 95% UB	66%	850%	24 154 046	3.82	47%	25%	24%	17%	37%	-21%	12%	73%

Table 71: Assessment of European patent portfolios, combinations of European patent portfolios with other IP right types and estimated 2012-2013 growth of other IP right types, broken down by mega cluster – Random group (weighted)

Additionally, question E (a) of this year's questionnaire asked respondents to score the importance of specific intellectual property rights and intellectual property rights combinations. **Table 72** gives an overall summary while **Table 73** to **Table 76** report on the answers to these questions in various breakdown scenarios. In each table, results are reported line by line for all qualifying respondents (line 1), for respondents who indicated that they also filed trademarks in 2012 (line 2), for respondents who indicated that they also filed registered designs in 2012 (line 3), and finally for respondents who indicated that they filed trademarks and registered designs in 2012 (line 4).

Results for the Random group, broken down by residence bloc, are shown in **Table 73** (without weighting) and **Table 74** (with structural weights). Results for the Random group, broken down by mega cluster, are shown in **Table 75** (without weighting) and **Table 76** (with structural weights).

Although statistics are not provided here to indicate significance, an ordering in terms of relative importance of the kinds of IP rights suggests that patents are more important than trademarks, which are in turn more important than registered designs[25]. It can be noted that the combination patent + registered design is rather important in Japan (and for the Electricity mega cluster), while patent + trademark + registered design is quite important in the US. The high relative evaluation of patents is probably to be expected since all respondents make patent applications, so it cannot be excluded that trademarks and registered designs are highly important for some companies that do not make European patent applications.

By sample group

		Importance of IP rights combinations to your business (1=not important at all, 2, 3, 4, 5=very important)													
Sample group	Respondents	Patent only		Trademark only		Registered Design only		Patent plus Trademark		Patent plus Registered Design		Trademark plus Registered Design		Patent plus Trademark plus Registered Design	
		N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
Biggest Unweighted	All	129	4.38	127	3.69	124	2.81	130	4.16	124	3.56	124	3.14	127	3.90
	Trademark filers	86	4.38	87	3.75	84	2.93	88	4.16	83	3.64	84	3.26	84	3.94
	Registered Design filers	69	4.14	129	4.38	69	3.28	70	4.21	130	4.16	124	3.56	71	4.31
	Trademark & Registered Design filers	57	4.21	58	3.88	57	3.30	58	4.24	57	3.95	58	3.64	58	4.33
Random Unweighted	All	571	4.24	558	3.27	538	2.32	555	3.74	528	2.98	527	2.48	537	3.28
	Trademark filers	277	4.35	278	3.59	268	2.57	281	4.03	265	3.23	265	2.75	269	3.61
	Registered Design filers	186	4.17	571	4.24	184	3.13	183	4.01	555	3.74	528	2.98	186	4.11
	Trademark & Registered Design filers	148	4.24	148	3.76	147	3.14	146	4.05	145	3.81	146	3.28	148	4.18
		WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN
Random Weighted	All	602	4.26	589	3.16	547	2.15	560	3.69	533	2.78	520	2.27	538	2.94
	Trademark filers	153	4.34	155	3.56	150	2.49	160	4.04	147	2.93	134	2.69	147	3.26
	Registered Design filers	79	4.23	77	3.55	74	3.17	74	3.89	73	3.75	74	3.10	72	3.80
	Trademark & Registered Design filers	56	4.37	56	3.91	54	3.37	54	3.96	53	3.76	54	3.31	52	3.93

Table 72: Assessment of importance of intellectual property rights combinations by sample group

[25] The overall ordering of importance from high to low is: 1. Patent only, 2. Patent + Trademark, 3. Trademark only, 4. Patent + Trademark + Registered Design, 5. Patent + Registered Design, 6. Trademark + Registered Design, 7. Registered Design only

Random group
Unweighted

Residence bloc	Respondents	Importance of IP rights combinations to your business (1=not important at all, 2, 3, 4, 5=very important)													
		Patent only		Trademark only		Registered Design only		Patent plus Trademark		Patent plus Registered Design		Trademark plus Registered Design		Patent plus Trademark plus Registered Design	
		N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
EP	All	368	4.14	356	3.18	340	2.11	358	3.56	335	2.69	335	2.24	337	3.00
	Trademark filers	156	4.29	157	3.55	147	2.27	161	3.85	147	2.79	148	2.38	149	3.25
	Registered Design filers	89	4.01	88	3.72	87	3.08	87	3.78	86	3.55	87	3.14	88	3.93
	Trademark & Registered Design filers	62	4.11	62	3.89	61	3.08	61	3.84	60	3.50	61	3.10	61	4.05
JP	All	109	4.30	109	3.48	108	3.01	109	4.12	108	3.76	108	3.19	112	4.04
	Trademark filers	87	4.29	87	3.57	87	3.11	87	4.22	87	3.93	87	3.33	89	4.16
	Registered Design filers	73	4.21	74	3.62	73	3.25	73	4.16	73	4.04	73	3.48	75	4.28
	Trademark & Registered Design filers	69	4.22	69	3.64	69	3.25	69	4.17	69	4.06	69	3.48	71	4.30
OT	All	34	4.50	32	2.81	32	2.31	33	3.64	31	3.16	31	2.32	32	3.28
	Trademark filers	9	4.67	9	3.78	9	2.89	10	4.20	9	3.22	9	2.78	9	3.67
	Registered Design filers	8	4.50	8	2.88	8	2.63	8	4.00	8	3.75	8	2.50	8	4.25
	Trademark & Registered Design filers	3	4.67	3	3.00	3	2.67	3	3.67	3	3.33	3	2.33	3	3.67
US	All	60	4.65	61	3.69	58	2.31	55	4.20	54	3.09	53	2.68	56	3.46
	Trademark filers	25	4.84	25	3.88	25	2.36	23	4.48	22	3.41	21	3.00	22	3.82
	Registered Design filers	16	4.75	16	4.06	16	3.13	15	4.53	15	4.07	15	3.47	15	4.27
	Trademark & Registered Design filers	14	4.79	14	4.00	14	3.00	13	4.54	13	4.00	13	3.31	13	4.23
TOTAL	All	571	4.24	558	3.27	538	2.32	555	3.74	528	2.98	527	2.48	537	3.28
	Trademark filers	277	4.35	278	3.59	268	2.57	281	4.03	265	3.23	265	2.75	269	3.61
	Registered Design filers	186	4.17	186	3.67	184	3.13	183	4.01	182	3.80	183	3.27	186	4.11
	Trademark & Registered Design filers	148	4.24	148	3.76	147	3.14	146	4.05	145	3.81	146	3.28	148	4.18

Table 73: Assessment of importance of intellectual property rights combinations, broken down by residence bloc – Random group (unweighted)

Random group
Cases weighted with structural weight

		Importance of IP rights combinations to your business (1=not important at all, 2, 3, 4, 5=very important)													
Residence bloc	Respondents	Patent only		Trademark only		Registered Design only		Patent plus Trademark		Patent plus Registered Design		Trademark plus Registered Design		Patent plus Trademark plus Registered Design	
		WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN
EP	All	259	3.84	247	2.98	238	2.04	252	3.41	230	2.49	233	2.15	228	2.78
	Trademark filers	77	3.97	79	3.52	74	2.30	85	3.90	72	2.78	75	2.49	71	3.23
	Registered Design filers	40	3.84	38	3.43	36	3.17	36	3.58	35	3.32	36	2.92	34	3.40
	Trademark & Registered Design filers	25	4.05	25	3.82	22	3.17	22	3.82	22	3.34	22	3.05	20	3.81
JP	All	23	4.23	23	2.93	22	2.71	23	3.32	22	3.22	22	2.58	23	3.39
	Trademark filers	15	4.20	15	3.37	15	3.06	15	3.91	15	3.84	15	2.99	15	3.69
	Registered Design filers	12	4.04	12	3.48	12	3.30	12	3.74	12	4.13	12	3.19	12	3.97
	Trademark & Registered Design filers	12	4.05	12	3.52	12	3.32	12	3.75	12	4.15	12	3.20	12	3.98
OT	All	85	4.43	84	2.56	84	2.05	84	3.65	79	3.12	79	2.21	84	3.21
	Trademark filers	20	4.59	20	3.69	20	2.61	20	4.64	20	2.89	20	2.60	20	3.66
	Registered Design filers	8	4.83	8	2.48	8	1.91	8	4.52	8	4.53	8	2.41	8	4.64
	Trademark & Registered Design filers	2	4.89	2	3.61	2	3.52	2	3.85	2	3.74	2	3.39	2	3.85
US	All	235	4.67	235	3.59	202	2.26	201	4.10	201	2.93	185	2.40	202	2.95
	Trademark filers	41	4.98	41	3.65	41	2.59	41	4.10	40	2.87	24	3.19	40	2.98
	Registered Design filers	18	4.96	18	4.35	18	3.67	18	4.31	18	4.02	18	3.74	18	4.05
	Trademark & Registered Design filers	17	4.97	17	4.34	17	3.66	17	4.31	17	4.01	17	3.72	17	4.04
TOTAL	All	602	4.26	589	3.16	547	2.15	560	3.69	533	2.78	520	2.27	538	2.94
	Trademark filers	153	4.34	155	3.56	150	2.49	160	4.04	147	2.93	134	2.69	147	3.26
	Registered Design filers	79	4.23	77	3.55	74	3.17	74	3.89	73	3.75	74	3.10	72	3.80
	Trademark & Registered Design filers	56	4.37	56	3.91	54	3.37	54	3.96	53	3.76	54	3.31	52	3.93

Table 74: Assessment of importance of intellectual property rights combinations, broken down by residence bloc – Random group (weighted)

Random group
Unweighted

Mega Cluster	Respondents	Importance of IP rights combinations to your business (1=not important at all, 2, 3, 4, 5=very important)													
		Patent only		Trademark only		Registered Design only		Patent plus Trademark		Patent plus Registered Design		Trademark plus Registered Design		Patent plus Trademark plus Registered Design	
		N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN	N	MEAN
Electricity	All	166	4.29	165	3.24	158	2.45	164	3.59	157	3.06	154	2.50	159	3.23
	Trademark filers	91	4.31	91	3.45	87	2.56	91	3.82	88	3.32	87	2.75	90	3.58
	Registered Design filers	66	4.11	67	3.55	66	3.24	66	3.91	66	3.98	66	3.29	69	4.22
	Trademark & Registered Design filers	51	4.10	51	3.61	51	3.18	51	3.94	51	3.94	51	3.31	54	4.28
Organic Chemistry	All	129	4.43	127	3.00	121	2.24	125	3.81	118	2.97	118	2.36	120	3.25
	Trademark filers	64	4.56	64	3.44	60	2.47	65	4.12	59	3.15	59	2.58	60	3.33
	Registered Design filers	29	4.59	29	3.72	29	3.07	29	4.24	29	3.83	29	3.24	29	4.00
	Trademark & Registered Design filers	27	4.59	27	3.67	27	3.04	27	4.19	27	3.78	27	3.15	27	3.93
Inorganic Chemistry	All	118	4.42	116	3.24	110	2.15	118	3.86	107	2.88	108	2.35	111	3.19
	Trademark filers	63	4.62	63	3.32	60	2.28	67	4.13	59	3.17	59	2.63	60	3.48
	Registered Design filers	33	4.55	33	3.58	33	2.79	33	4.30	33	3.85	33	3.27	34	4.24
	Trademark & Registered Design filers	28	4.57	28	3.46	28	2.71	28	4.32	28	3.96	28	3.21	29	4.34
ICT	All	85	4.20	83	3.42	78	2.33	83	3.72	75	2.99	75	2.39	77	3.31
	Trademark filers	44	4.34	45	3.44	42	2.60	47	3.77	42	3.07	42	2.50	43	3.49
	Registered Design filers	28	4.11	29	3.62	28	3.29	28	3.96	28	3.75	28	3.14	29	4.21
	Trademark & Registered Design filers	23	4.04	23	3.57	23	3.39	23	3.91	23	3.70	23	3.09	24	4.17
Traditional	All	332	4.19	331	3.32	318	2.50	325	3.69	311	3.08	310	2.62	318	3.34
	Trademark filers	167	4.32	167	3.63	162	2.72	167	4.02	160	3.32	160	2.86	162	3.68
	Registered Design filers	117	4.13	118	3.67	116	3.21	116	4.04	115	3.85	116	3.40	118	4.15
	Trademark & Registered Design filers	93	4.22	93	3.77	92	3.24	92	4.11	91	3.82	92	3.38	93	4.22

Table 75: Assessment of importance of intellectual property rights combinations, broken down by mega cluster – Random group (unweighted)

Random group
Cases weighted with structural weight

Mega Cluster	Respondents	Importance of IP rights combinations to your business (1=not important at all, 2, 3, 4, 5=very important)													
		Patent only		Trademark only		Registered Design only		Patent plus Trademark		Patent plus Registered Design		Trademark plus Registered Design		Patent plus Trademark plus Registered Design	
		WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN	WEIGHTED N	MEAN
Electricity	All	142	4.25	142	3.06	125	2.25	126	3.71	120	2.87	119	2.27	120	2.81
	Trademark filers	34	4.23	34	3.17	34	2.15	34	3.86	34	3.07	34	2.23	34	3.18
	Registered Design filers	22	4.21	22	2.68	22	2.88	22	3.68	22	4.19	22	2.46	22	3.72
	Trademark & Registered Design filers	10	3.76	10	3.20	10	3.16	10	3.50	10	4.05	10	2.71	11	3.89
Organic Chemistry	All	121	4.23	121	2.82	104	2.03	104	3.59	103	2.77	103	2.07	103	2.93
	Trademark filers	29	4.22	29	3.33	28	2.44	29	4.42	28	3.04	28	2.43	28	3.43
	Registered Design filers	9	4.48	9	3.52	9	2.82	9	3.89	9	3.11	9	2.81	9	3.11
	Trademark & Registered Design filers	9	4.48	9	3.51	9	2.82	9	3.89	9	3.10	9	2.80	9	3.09
Inorganic Chemistry	All	91	4.26	88	3.07	85	2.25	92	3.44	84	2.54	85	1.72	83	2.42
	Trademark filers	25	4.76	25	3.37	25	2.52	29	4.32	25	3.12	25	2.65	25	3.70
	Registered Design filers	14	4.65	14	3.72	14	3.14	14	4.09	14	3.50	14	2.83	14	3.70
	Trademark & Registered Design filers	12	4.78	12	3.66	12	3.00	12	4.11	12	3.95	12	3.13	12	4.18
ICT	All	93	4.16	91	2.99	90	1.64	95	3.83	83	3.09	85	2.22	81	3.15
	Trademark filers	11	4.57	13	3.32	13	2.57	18	3.93	11	3.62	13	2.70	9	4.05
	Registered Design filers	10	4.61	10	2.84	10	2.22	10	4.56	10	4.50	10	2.69	8	4.80
	Trademark & Registered Design filers	5	4.19	5	3.59	5	3.43	5	4.10	5	3.99	5	3.33	3	4.46
Traditional	All	343	4.16	339	3.20	301	2.12	303	3.58	292	2.61	276	2.15	299	2.82
	Trademark filers	90	4.24	90	3.47	87	2.49	89	3.96	86	2.92	70	2.72	87	3.24
	Registered Design filers	39	3.95	40	3.29	37	3.06	37	3.63	37	3.72	37	3.06	37	3.71
	Trademark & Registered Design filers	30	4.26	30	3.58	28	3.21	28	3.82	27	3.65	28	3.05	28	3.82

Table 76: Assessment of importance of intellectual property rights combinations, 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 2013. As in the previous two years, Euro-direct applications that can be identified as divisionals were excluded from the counts.

The calculation is shown for Total filings (Euro-direct + Euro-PCT-RP). The following table describes the carryover of all applicants (filers) for Total filings from each year to all other years considered in the period.[26]

Recurrent applicants		(excluding divisionals)					Total filings (Euro-direct + Euro-PCT-RP)				
		Also filed in									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Filers in											
	2003	31 404	10 835	9 769	9 082	8 352	7 721	6 856	6 238	5 868	5 541
	2004	10 835	32 157	11 070	10 367	9 534	8 766	7 550	6 927	6 506	6 102
	2005	9 769	11 070	32 453	11 441	10 679	9 800	8 478	7 591	7 087	6 635
	2006	9 082	10 367	11 441	33 241	12 040	11 051	9 498	8 380	7 920	7 377
	2007	8 352	9 534	10 679	12 040	34 431	12 423	10 641	9 599	8 737	8 120
	2008	7 721	8 766	9 800	11 051	12 423	34 991	11 876	10 652	9 756	8 928
	2009	6 856	7 550	8 478	9 498	10 641	11 876	32 663	11 507	10 468	9 647
	2010	6 238	6 927	7 591	8 380	9 599	10 652	11 507	32 680	11 663	10 677
	2011	5 868	6 506	7 087	7 920	8 737	9 756	10 468	11 663	32 690	11 789
	2012	5 541	6 102	6 635	7 377	8 120	8 928	9 647	10 677	11 789	33 092

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[27].

Recurrent applications		(excluding divisionals)					Total filings (Euro-direct + Euro-PCT-RP)				
		Active in									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Filings in											
	2003	111 796	85 532	81 996	79 003	76 659	73 647	69 258	65 343	63 062	61 804
	2004	90 447	118 121	91 214	88 477	85 556	82 834	77 871	73 748	70 985	69 506
	2005	91 183	94 876	122 469	95 718	93 063	90 173	85 123	80 407	77 316	75 582
	2006	92 684	96 289	99 952	128 350	101 177	98 316	92 737	87 046	84 390	82 628
	2007	92 414	95 936	99 962	104 038	133 381	104 972	99 422	94 442	91 235	88 947
	2008	93 935	97 124	101 202	104 649	108 560	138 266	107 382	103 100	99 658	96 665
	2009	83 847	86 368	89 949	93 132	96 412	100 294	127 345	99 829	96 569	93 536
	2010	82 348	84 795	88 277	90 433	94 214	98 006	101 003	129 306	102 022	98 557
	2011	81 500	84 338	87 976	90 206	93 302	97 138	99 949	103 459	131 563	104 308
	2012	83 403	87 295	89 988	92 580	94 860	98 335	101 297	103 655	108 054	137 526

[26] The data in this section were extracted from the database as at the time of sampling for the survey in March 2013. It should be noted that the number of applicants in 2012, 33 092, is lower than the corresponding number, 40 160, that is given in Annex XI. It should also be noted that capitalised names are used as identifiers for applicant entities.

[27] The total that appears for 2012 in Annex IX is 138 264, that is more than the 137 526 given here. The difference corresponds to applications for which the applicant could not be identified.

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								
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	2003	0	26 264	29 800	32 793	35 137	38 149	42 538	46 453	48 734	49 992
	2004	27 674	0	26 907	29 644	32 565	35 287	40 250	44 373	47 136	48 615
	2005	31 286	27 593	0	26 751	29 406	32 296	37 346	42 062	45 153	46 887
	2006	35 666	32 061	28 398	0	27 173	30 034	35 613	41 304	43 960	45 722
	2007	40 967	37 445	33 419	29 343	0	28 409	33 959	38 939	42 146	44 434
	2008	44 331	41 142	37 064	33 617	29 706	0	30 884	35 166	38 608	41 601
	2009	43 498	40 977	37 396	34 213	30 933	27 051	0	27 516	30 776	33 809
	2010	46 958	44 511	41 029	38 873	35 092	31 300	28 303	0	27 284	30 749
	2011	50 063	47 225	43 587	41 357	38 261	34 425	31 614	28 104	0	27 255
	2012	54 123	50 231	47 538	44 946	42 666	39 191	36 229	33 871	29 472	0

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

CF' = (# applications year i+j from applicants that did not file in year i) -

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

((# applications in year i+j in population)/(# applications in year i 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 one year ahead CF' is taken as the one-year CF' for future projection, the most recently available two year ahead CF' is taken as the two-year CF' for future projection, etc. The resulting set of CF's are collected in the following table (which tracks data back to Survey Year 2005, where available).

		Correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	-76		
2006	2005	-304	-1.359	
2007	2006	362	-150	-1.983
2008	2007	1.197	1.393	673
2009	2008	257	2.002	602
2010	2009	-1.394	-1.489	-781
2011	2010	363	-1.587	-2.657
2012	2011	344	-181	-2.311
2013	2012	982	-283	-2.187

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

disturbance in the system in that numbers of filings were reduced when compared to 2008, unlike the earlier years where continuous growth was experienced.

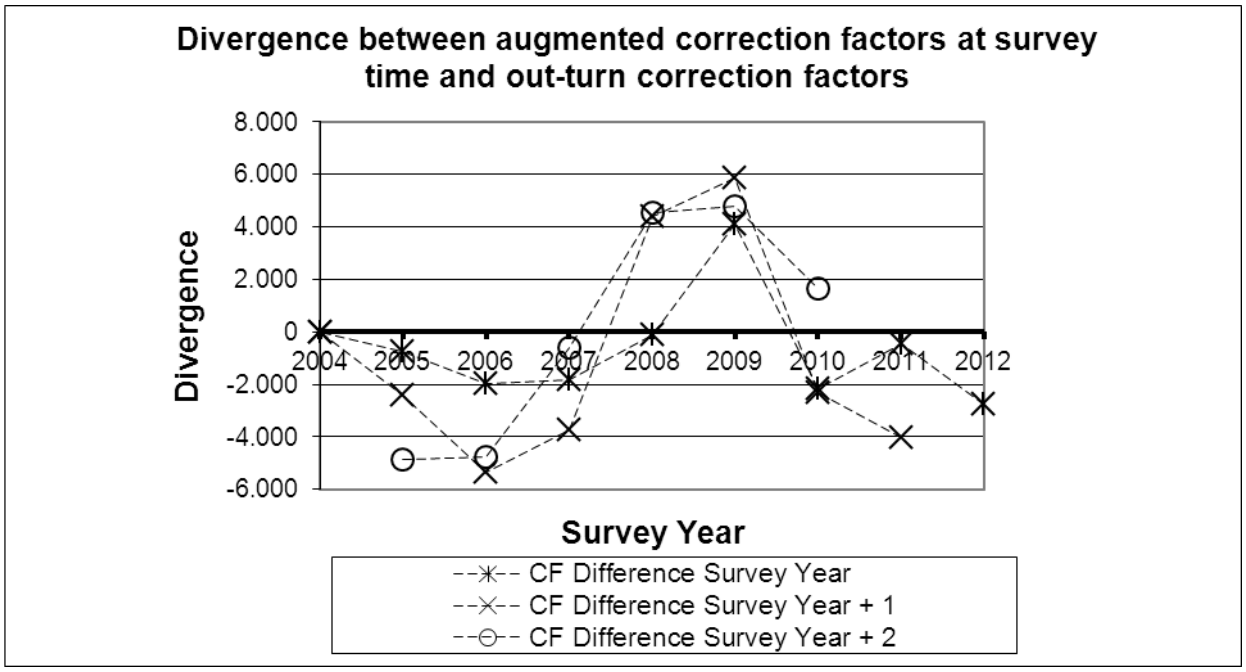
The following table calculates forward correction factors as experienced beyond base years due to the subsequent out-turns. Data is missing on this for the most recent surveys. Since the out-turns already take account of the growth of the overall numbers of applications in the population, the forward correction factors are calculated without the population growth terms.

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

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

		Correction factors for Total filings (Euro-direct+Euro-PCT-RP)		
Survey Year	Base Year	Survey Year	Survey Year + 1	Survey Year + 2
2005	2004	-304	-150	673
2006	2005	362	1.393	602
2007	2006	1.197	2.002	-781
2008	2007	257	-1.489	-2.657
2009	2008	-1.394	-1.587	-2.311
2010	2009	363	-181	-2.187
2011	2010	344	-283	NA
2012	2011	982	NA	NA
2013	2012	NA	NA	NA

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.



The divergences are negative in the early part of the period, which means that the correction factors have underestimated the balance of applications coming from new applicants compared to the drop-out of old applicants. In the middle of the period, the divergences become positive, before becoming slightly negative again in the surveys from 2010 onwards.

The correction factor for the survey year is most accurate. The survey year + 1 divergence was a little out at about -5 000 in 2006 and up to +5 000 in 2008. The survey year + 2 divergence behaves somewhat similarly to the survey year + 1 divergence. The magnitude of the divergences is about the same as those reported last year.

The correction factors are rather small compared to the uncertainty of the survey-based filings forecasts, and can most practically be ignored. However, they represent a useful control check of the sampling method. Their low values over the period studied in this survey give some confidence to the method of sampling using capitalised names.

15 Annex IX: Sizes of populations and samples for the 2013 EPO Patent Filings Survey

	Euro-applications in 2012[&]					Euro-applicants in 2012[$"]				
	Direct	PCT-IP[#]	Total (Direct + PCT-IP[#])	Euro-PCT-RP	Total (Direct + Euro-PCT-RP)	Direct	PCT-IP[#]	Total (Direct + PCT-IP[#])	Euro-PCT-RP	Total (Direct + Euro-PCT-RP)
1. Population in 2012*	52 850	195 292	248 142	85 414	138 264					40 160
Sample group A: Biggest										
2. Number asked[$]	25 798	27 257	53 055	35 891	61 689	340	378	415	401	433
as percentage of 1.	48,8%	14,0%	21,4%	42,0%	44,6%					1,1%
Number of quantitative responses (questionnaires)	18 446	46 457	64 903	18 722	37 168	139	155	165	143	166
as percentage of 1.	34,9%	23,8%	26,2%	21,9%	26,9%					0,4%
as percentage of 2.	71,5%	170,4%	122,3%	52,2%	60,3%	40,9%	41,0%	39,8%	35,7%	38,3%
Sample group B: Random										
3. Number asked[$]	30 096	45 607	75 703	44 958	75 054	1 340	1 375	1 982	2 212	2 756
as percentage of 1.	56,9%	23,4%	30,5%	52,6%	54,3%					6,9%
Number of quantitative responses (questionnaires)	22 066	53 954	76 020	22 327	44 393	542	526	664	503	682
as percentage of 1.	41,8%	27,6%	30,6%	26,1%	32,1%					1,7%
as percentage of 3.	73,3%	118,3%	100,4%	49,7%	59,1%	40,4%	38,3%	33,5%	22,7%	24,7%

[&] All figures exclude divisional filings.

* From the EPO database (EPASYS) and WIPO web site. (Applications are status January 2014, Applicants are status March 2013).

[$] The counts of numbers asked in the samples are status March 2013

[#] 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 capitalised applicant names from EPASYS at sampling time (status March 2013)

Table 77: Sizes of populations and samples for the 2013 EPO Patent Filings Survey

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